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ABSTRACT

Many office occupations open to typists require a skill level above that reached by the disadvantaged urban student who completes the present "clerical" training course. Conventional instruction in typewriting has tended to focus on manipulative factors whereas relatively recent research has shown that cognitive factors (decision making processes) bearing on attractive placement of materials on the page are substantially more important in accounting for skill at realistic typing tasks above the level of simple copying. In view of the need for new instructional materials emphasizing the decision making processes, a 541-frame programed instruction unit was prepared. The program is divided into 14 sections covering horizontal and vertical centering, simple and advanced table typing, business letters, and report typing. The program can be used by anyone who wishes to acquire or upgrade the cognitive skills taught by this program and can be used as a self-instructing unit. (Author/JS)

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PROGRAMED INSTRUCTION FOR DECISION-MAKING ASPECTS OF TYPING TASKS

Leonard J. West

Division of Teacher Education
The City University of New York

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Summary

Chronic complaints of shortages of typists and of inadequate skills among them pinpoint a particular need (a) to furnish an occupational skill to the disadvantaged urban student, who presently completes "clerical" training with little more than ordinary copying skill, and (b) to meet the anticipated need, during the 1970's, for "senior" typists.

Conventional instruction in typewriting has tended to focus on keystroking and other manipulative factors, whereas relatively recent research has shown that cognitive factors (decision-making processes) bearing on attractive placement of materials on the page are substantially more important in accounting for skill at realistic typing tasks above the level of simple copying (business correspondence, tables, reports).

In view of the need to devote the bulk of page space in typewriting textbooks to materials for typing and of the sequential nature of the pertinent decision processes, instructional materials on decision processes were prepared in programed form (for use independent of the standard typewriting textbook), in readiness for field trial among disadvantaged high school students. Revisions were made during program preparation on the basis of work done under controlled conditions with individual students. The resulting 541-frame (primarily linear) program uses 190 instructional pages (3 frames to an 8-1/2" x 11" page), with the model answer(s) to each frame appearing alongside the following frame in a down-the-page format. Responses, both composed and selected, are written by the student in the blanks that are provided. These responses represent the mediating decisions (machine settings) for a large number of illustrative typing tasks and, often, the processes by which the subsequent typing should be carried out. Upon completing work at any subsection of the program, the student can execute at the typewriter the sample tasks contained in the program and comparable tasks drawn from the conventional typewriting textbook, as well.

The program is divided into 14 sections (which can be used in a number of orders) devoted to: horizontal and vertical centering, simple and advanced table typing, simple and advanced business letters, report typing, and estimation of copy length for placement purposes. Each of the 14 sections is further divided into one or more subsections, each covering a logical unit of subject matter and of a size judged to be appropriate for one work session (of approximately 10-30 minutes). As self-instructional materials, the program should ideally be worked on outside of formal class meetings (i.e., as homework), freeing the teacher from the large amounts of class time ordinarily devoted to oral explanations about matters of placement of materials on the page and permitting maximum classroom practice at applying at the typewriter the concepts taught by the program. Outside of formal school situations, the program can be used by anyone who wishes to acquire or to upgrade proficiency at the cognitive skills taught by the program.

Problem and Objectives

Typewriting is a skill in enormously widespread use, vocationally and personally. Yet, complaints of shortages of typists and of insufficient skills among them have been chronic (e.g., Wright, 1965). The problem is one of increasing the supply of competent typists. A major potential source of typists is the disadvantaged urban student, numbers of whom presently complete "clerical" training with little more than ordinary copying skills. The school drop-out and the adult job trainee and retrainee are also prominent candidates for typewriting training. Further, the U.S. Department of Labor's Occupational Outlook Handbook (1966-67 edition) has pointed in particular to a special need during the 1970's for "senior typists," who "generally perform work requiring . . . independent judgment; they may work from rough drafts . . . which contain technical material, or they may plan and type complicated statistical tables . . . ." The requirement is for skill at the typing tasks of real life, not at line-for-line copying of the perfect print of the typewriting textbook.

In the face of that requirement, complaints about insufficient skills suggest deficiencies in conventional instructional practices for typewriting. The conventional assumption is that keystroking and other manipulative factors are the major ones in proficiency at realistic typing tasks. Relatively recent evidence (see Related Research) strongly suggests that cognitive factors (decision-making behaviors applicable to placement, layout, or arrangement of materials on the page) outweigh manipulative ones in accounting for proficiency at realistic typing tasks, increasingly so as amount of training and level of skill increase.

The meaning of decision-making applied to typewriting can best be given by illustration. For business-letter typing, the typist must decide, before typing, how long the letter is (i.e., how many words, without counting word-by-word). That decided, appropriate side margins must be selected, and the appropriate distance from the top of the page for starting the letter must be determined. The same (horizontal and vertical) marginal questions have to be answered for table typing. In addition, following a decision on appropriate blank space between columns, the appropriate starting point for each column and column heading must be identified. In typing a report containing footnotes, footnote space must be estimated in advance in order to leave room for them at the bottom of the page. As the task grows more complex (e.g., tables with braced headings or with unequal intercolumn spacing, letters or reports containing tables, listings, and the like), the number of decisions and their complexity increase. These "placement" decisions determine the acceptability of the typed product and, as shown by the evidence (see Related Research), they are more consequential than mere keystroking in accounting for task proficiency. For some tasks, more time is spent in making these decisions than in actual typewriter operation. Further, misstrokes can be corrected by erasing; placement errors are rarely correctible.

The mistaken focus on keystroking and other manipulative factors in conventional typewriting instruction and the slighting of explicit practice in making placement decisions probably accounts in large part for employers' complaints about inadequate skills. In recognition of the need not met by available instructional materials, the activity reported here was devoted to the preparation, in readiness for field trial among disadvantaged high school students, of programed instruction materials dealing with the cognitive aspects of realistic typing tasks: with the pertinent placement decisions, not with keystroking. Should such materials, upon trial, prove to be effective, complaints about insufficient skills could be alleviated. Decision-making programed materials, side by side with typing textbooks containing large amounts of material for actual typing, would constitute a curriculum in accord with occupational and personal typing needs. The special need for senior typists could be met, and a marketable skill could be put into the hands of urban trainees, whose skills following conventional "clerical" training bear little relationship to actual job requirements above the level of addressing envelopes for mail order houses or filling in insurance premium notices.

Related Research

The pertinent related research furnishes further details on (a) employment trends and needs and the extent of typewriter use in this country, (b) tasks performed by employed typists, (c) the role of cognitive factors in total task proficiency, (d) proficiency levels at terminal stages of conventional training, and (e) characteristics of conventional training for realistic typing tasks.

Employment Trends and Typewriter Use. National surveys by the U.S. Office of Education reveal that typewriting is a skill taught to more than half of all public secondary school students (Wright, 1965). Federal decennial census data (for 1960) showed that 2.29 million persons (3.5% of the labor force) were employed full-time as secretaries, stenographers, and typists (Rutzick and Swerdloff, 1962). Increases had been predicted (U.S. Bureau of Labor Statistics, 1963) and have, in fact, materialized. Occupational use of the typewriter, moreover, is not confined to clerical employment. A survey of the occupational history (over a 1- to 10-year postgraduation period) of 675 (mostly male) graduates of a collegiate school of business (West, 1961) showed that four-fifths of those in accounting, economics, marketing and management found typing skill to be at least moderately useful in their occupations. The enormous extent of vocational and personal use of the typewriter in this country is perhaps best suggested by the estimate by the writer of a business and economics column for a metropolitan newspaper (Porter, 1966) that 35 million Americans use the typewriter. The desirability of training that maximizes skill at real-life uses of the typewriter can hardly be exaggerated.

Tasks Performed by Employed Typists. Studies by Frisch (1953) of employed clerical typists (those without stenographic duties) and by Featheringham (1965) of the posttraining typing activities of those who had a personal typing course in high school agree in identifying the virtual absence of "straight copy work" among employed typists and show,

instead, that (a) the majority of the frequently performed typing tasks in real life call for the placement of materials on the page in accordance with certain conventions and for making decisions about appropriate placement (e.g., of columns and column headings in a table) and that (b) about half of all nonstenographic copy for typing is in longhand or in mixed type and longhand rather than in the perfect print of the typewriting textbook. Specifically, the recent study by Perkins, Byrd, and Roley (1968), which reported the typing tasks carried out by various percentages of office workers in the state of Washington, showed business letters, tabular material, final copy from rough draft or unarranged copy, manuscripts and reports, and the like, to be among the most commonly performed tasks. Such tasks or aspects of them call for making placement decisions, generally in advance of the actual typing.

Role of Cognitive Factors in Total Task Proficiency. The findings of numerous studies, including West (1960) and West and Bolanovich (1963) --summarized by Muhich (1967) and reviewed by West (1967, 1969)--are in agreement in showing enormous discrepancies between performance scores on the artificial school training task of straight copy typing and performance scores on the realistic activities of typing business letters, tables, and such display items as announcements and other work from rough draft copy. Both speed and errors on realistic tasks are a small fraction of speed and errors in straight copy work. The large discrepancies are patently attributable to the decision-making aspects of real-life typing tasks and to the different "set" adopted by the typist for "production" typing (i.e., of realistic tasks) in contrast to straight copy typing. Muhich's analysis of the components of production proficiency (1967), summarized in West (1969, Ch. 13), showed decision-making to play a larger role than machine operation factors in accounting for total task proficiency. Moreover, the role of decision-making increased as amount of training increased (1, 2, and 2+ years of formal typing training among high school and college typists). Illustratively, making one's own placement decisions made the work take 2-1/3 times as long, as compared to work from prearranged copy, requiring no decision-making but only machine operation. Such findings make it apparent that decision-making about matters of placement of materials on the page is at the heart of proficiency at realistic typing tasks.

Proficiency Levels at Terminal Stages of Conventional Training. The contrast between the long-time availability of large-scale data on the proficiency of typists at straight copy work, but the virtually complete absence of data on a comparable scale for realistic typing tasks, demonstrates that insufficient attention to the real objectives of instruction has characterized typing training in this country. The fallacy of the assumption that straight copy skills are highly related to proficiency at realistic typing tasks is as yet little known to (and certainly not acted on by) teachers and employers. Specifically, while ordinary stroking speed is appreciably correlated with speed at production tasks (r's ranging between .50 and .70), error correlations are negligibly small (in the .20's typically), as given in a review of all the existing evidence (West, 1969, pp. 329-334). Illustrative absolute scores show straight copy speeds of 40-60 words per minute (wpm), accompanied by speeds at

realistic typing tasks ranging between about 5 wpm and the middle 20's to low 30's (West, 1969, pp. 335-343). The most comprehensive study completed to date (Crawford, 1956) showed rates on realistic typing tasks by senior-college trainees of 10-13 wpm, accompanied by straight copy speeds in the 50's. Comparable data on a much larger scale have been collected by McLean under U.S. Office of Education Project 8-B-113 (scheduled for reporting by mid-spring, 1970), in which nearly 3,500 persons completing 1, 2, and 2+ years of formal typing training in high schools and community colleges were tested on a battery of realistic typing tasks. Numbers of examinees were unable to complete eight tasks (totalling about 600 words of typing) in five class periods (2 to 2-1/2 hours of actual typing time). That is, numbers of examinees who had completed one and more years of formal typing training performed below 5-wpm levels. Yet, their straight copy speeds were in the 20-40 wpm range.

The available data on proficiency at realistic typing tasks ("production" typing, as it is called) highlight the dominating role of decision processes over keystroking and other manipulative factors and reveal the inadequacy of conventional modes of training for production skill. The gross absence of norms or standards for production tasks (in contrast to the widely established standards for straight copy typing) further supports the inferences drawn here.

Characteristics of Conventional Training for Production Typing. A first step in determining the marginal space that will result in attractive appearance for many realistic typing tasks rests on an estimate of the number of words in the material. Such information is rarely available in the real world, but it routinely accompanies all typing textbook materials (presumably in order to permit rapid scoring of the work for speed). Because the textbooks routinely give word counts, the student is hardly ever required to make length estimates and is rarely taught how to do so. Faced with materials unaccompanied by a word count (as in many of the studies mentioned earlier), the typist often spends exorbitant amounts of time in making marginal decisions or makes wrong decisions in haste and ignorance. For the tabular work that is a large component of the activities of employed typists (Perkins, et al., 1968), conventional instructional practice is even less to the point. The majority of textbook tables specify intercolumn spacing and other placement details. Muhich's tally of the contents of five major typewriting textbooks (1967) showed an average of less than 1/3 of the textbook letters, tables, and drafts to be unguided (i.e., unaccompanied by placement instructions). The bulk of typewriting instruction appears to be aimed at the routine copying tasks of the lowest levels of clerical typing. The general picture is one of explicit guidance during training, in the face of the total absence of such guidance in real life. Conventional instruction is in sharp contrast to the principle established from empirical findings across many learning tasks that guidance is valuable if confined to small doses entirely restricted to the earliest stages of training (Bugelski, 1956; Stolurow, 1959). One cannot conceive of an employer asking his secretary to type "this 128-word letter" or to "leave 8 spaces between columns in this table." Yet, explicit instructions at that level pervade typing training.

Even when the textbooks provide bases for placement decisions (as in specifying margins for business letters of various lengths), they rarely go beyond that simple level, e.g., by considering factors other than the number of words. In any event, no explicit practice at decision-making is provided. Further, for any given type of task usually only one placement method is described, ordinarily a simple scheme appropriate to the simple textbook tasks, but one that breaks down on the more complex tasks carried out by employed typists.

Conventional training procedures start with exclusive attention to keystroking skills (with periodic attention given to such skills through late stages of training), followed by a slow introduction of realistic tasks (accompanied for months by explicit guidance on some or all matters of placement). Only at terminal stages of second-year training does one find practice activities that correspond more nearly to the work of employed typists: realistic copy unaccompanied by guidance on matters of placement. The general picture is one of too long a focus on the wrong things (manipulative skills), of a drag-out on the right things (decision making), accompanied by the supposition that being given the appropriate machine settings teaches one the processes by which those settings are determined. The typical deferment of fully realistic practice tasks until well into a second year of training is especially shocking in view of the fact that 70 percent of typing instruction in this country is for one year only (Wright, 1964, 1965).

The correlational evidence demonstrates the low relevance of copying skill to performance at consequential tasks, and the low proficiency levels at realistic tasks demonstrates the weakness of the conventional routes to proficiency at such tasks. The preferable rationale is one of earlier teaching of the cognitive components that dominate production typing skill, followed by extensive practice at unarranged materials, to which the learner applies the decision processes learned earlier. Under such a rationale, performance at realistic tasks after one year of training might be little below and sometimes even equal or exceed that following two years of conventional instruction.

Objectives

The rationale just expressed could not be implemented by modification of existing typewriting textbooks without extending them to a length that would be uneconomic. Textbook page space is needed for materials for typing. The substantial amounts of practice (and therefore page space) needed to master the cognitive aspects of typing tasks can best be furnished by separate materials. The sequential nature of the decision processes pertinent to planning the layout of any given typing task point to materials in programed form as most desirable. Even more consequential: "programed instruction" permits each student to progress at his own rate and furnishes immediate feedback for responses. Further, since such materials are intended to be self-instructional, study of the materials outside of class would permit maximizing class time devoted to application of the placement concepts taught by the program to actual typing tasks--rather than to the large amounts of oral teacher explanation of matters of placement that would otherwise be required. Another

possibility is that, with programed decision-making materials available, the typing text could be divested of its guidance features, thereby reducing its length and its cost.

Accordingly, the proximate objective of the present work was to prepare, in readiness for field trial among disadvantaged high school students, "Programed Instruction for Decision-Making Aspects of Typing Tasks." The ultimate objective was to contribute to remedying the central deficiency in conventional typing training and, thereby, to better satisfy employment needs by furnishing a marketable occupational skill to disadvantaged urban students. A by-product objective is the upgrading of typing skills to satisfy the predicted need during the 1970's for senior typists.

Methods and Results

Strictly speaking, the "Result" of this project is the instructional program contained in the appendix immediately following the body of this report. However, the processes by which it was developed and its descriptive characteristics can most conveniently be described jointly. Since the programed materials deal only with decision processes and not with actual typing, the manner in which programed work should be tied to subsequent typing and the role of the teacher in this regard are included. Treated in turn are: identification of the scope of instruction, the role of the program and of the teacher in the acquisition of "production" typing skill, identification of optimum placement rules and processes, organization and packaging of instructional content, selection of an appropriate programing style, format, and language level, and review and tryout during program preparation.

Program Scope. Earlier studies (see Related Research) showed that business letters, tables, and reports constitute the major classes of life uses of the typewriter. In fact, other than purely clerical tasks (such as envelope addressing, form-letter copying, form fill-ins, invoice typing, and such trivia as telephone messages), letters, tables, and reports embrace the majority of life uses of the typewriter. At least the processes and concepts applicable to those three classes of tasks include those found in other tasks. Accordingly, the cognitive or decision processes that apply to page placement and machine settings for business letters, tables, and reports make up the content of the instructional program. "Reports" are taken to mean, broadly, not only items like this project report, but also any prose matter for which ideal placement varies with length (e.g., a several-paragraph announcement for posting on a bulletin board). Applicable to such brief "reports" and to business letters is advance estimation of the page space required; so "estimation of copy length" was also included in the instructional program. In keeping with the finding of large amounts of longhand copy in the work of employed typists, significant amounts of the programed materials to which placement decisions are to be applied are in longhand.

Role of the Program. It was not the intent to preempt the functions adequately served by standard typewriting textbooks, but rather to fulfill vital training requirements not met or not adequately met by conventional training materials. The program is not a repository of practice

materials for typing, but a vehicle for furnishing practice at the mediating (internal, "mental") responses that must intervene between perception of the raw materials and the execution of those raw materials into finished form at the typewriter. Given something to type, the typist must decide where to set the margins before operating the typewriter's margin-setting mechanism. Using that example as an instance, the program teaches where margins should be set, not how to set them. The typing textbook contains business letters for typing; the program does not. It says, instead: "Assume a business letter of 117 words. In your size of type the left margin should be set at ____ and the right margin at ____. The date should be typed on line ____." In the same fashion, the program teaches the adjustments in vertical placement that should be made when a letter contains additional elements (e.g., an "attention" line). But it does not explain what an "attention" line is. The conventional typing textbook should be referred to for such information, before dealing, in the program, with the effects of such an item on letter placement. The program deals with matters of placement, with mental decision processes that apply to marginal and other machine settings for letters, tables, and reports and, when necessary, with conventions of format. The sections of the program devoted to tables necessarily include dozens upon dozens of miniature tables or portions of tables in order to furnish the student with many opportunities to specify the appropriate machine settings. The decisions about placement of materials on the page are the heart of "production" typing, and the programed materials focus on those placement decisions.

Role of the Teacher. The placement decisions "mediate" (occur in the middle) between perception of the overt stimuli of the raw copy materials and the overt responses of actual typing. For efficient learning, all three elements (overt stimuli, mediating placement decisions, and overt typing responses) must be tied close together in time. The programed materials provide the first two elements (stimuli and mediators) in close temporal contiguity. But the third element, actual typing, is entirely absent from the program. The student who has access to a typewriter while working on the program can immediately follow his program responses with pertinent actual typing, often frame by frame, thus meeting the requirement of close temporal contiguity between making the placement decisions and executing the typing. But for the student who works on the program at home and has no access to a typewriter until the next day in class, a long time interval intervenes. The student who comes to class unable to type has not "forgotten" his homework responses. Instead, he has not yet had an opportunity to tie those responses close in time to actual typing. For that reason, especially for trainees of low ability, the teacher in class should lead students step by step through the actual typing of illustrative tasks, using the program's concepts and processes. In that way, the pertinent mediating processes are tied close in time to overt typing responses. When the program provides materials pertinent for actual typing (as in the sections on tables), those materials should be used. Then one should proceed to the typing of full-scale tasks from the typing textbook. For practice materials not contained in the program (e.g., business letters), the program's mediating processes should be applied step by step to the actual typing of textbook materials.

Placement Rules and Processes. Numerous placement procedures have long been included in typewriting instruction, variously represented in existing typewriting textbooks. The bases for the ones selected (or invented) for use in the program can best be described by example. The typing textbooks of one major publisher prescribe "the backspace method" of table typing; another publisher prescribes "arithmetic." Neither method is optimally efficient for any and all tables. Backspace methods are most convenient for simple tables; arithmetic methods are efficient for some aspects of most tables; for all except the simplest tables, a combination of arithmetic and spacing methods is optimally efficient. However, any one typewriting textbook (or teacher, one supposes) tends to focus on one and only one mode of table placement, apparently with the thought that teaching students more than one way to do a certain thing "confuses" them. Possibly the one-method textbook treatment is deliberately intended as a sales feature that permits distinguishing the book from competing textbooks. Also, insofar as arithmetic methods of table planning require petty arithmetic, backspace methods might be thought preferable for students with arithmetic deficiencies and, therefore, in textbooks aimed at such students. In any event, in the desire to meet all levels of student ability and, more important, to provide methods for typing any and all tables, both backspace and arithmetic methods of table planning are taught in the present program. The methods are contained in separate sections of the program, applied to simple tables. A later section on advanced table typing invokes the use of both methods, as applicable, for the sake of maximum efficiency and speed in planning and executing the typing.

The foregoing instance of table typing illustrates one major criterion for program content: flexibility, adaptability to various levels of student ability and to various task-difficulty levels. Another such instance is the treatment of vertical placement procedures for business letters. Some textbooks teach a "moving" dateline: the position of the date varies with letter length, and distance between date and inside address is fixed. Other texts prescribe date placement a fixed distance from the top of the page regardless of letter length; distance between date and inside address varies with letter length. Presumably, both "moving" and "fixed" datelines are used by employed typists. Accordingly, the present program teaches both methods: branched, so that the teacher (or trainee) can elect one of the two methods. If desired, the second method can be introduced immediately after the first one or after any desired interval following experience with the first method.

Typing textbooks also vary in the precision of their letter placement schemes. Some are fairly gross; others, quite fine. The scheme taught in the present program is one that leads to vertical placement that will rarely, if ever, depart from perfect placement by more than a small fraction of one inch. At the same time, as attested to by users,[1] it is much

[1]As of the publication of the present report, the instructional program prepared under this project is at the half-way mark of field testing in three New York City high schools (under New York City, Board of Education, Business Education Proposal No. 1, 1969-70). A report on that field test will be available in the fall of 1970. Participating teachers have reported to the author their special satisfaction with the letter-

simpler than the methods found in the leading typewriting textbooks. The applicable algorithm (see Frame 10-11 or Frame 10-24 of the program) is contained in two readily memorized sentences that free the typist from the need to refer to any table of marginal instructions.

Another instance of flexibility--this one, mandatory--results from the existence of two common sizes of type (pica and elite). The proper objective of typewriting instruction is not school use, but life use. Since the size of type that might be encountered in lifetime use of the typewriter cannot be predicted in advance, an early section of the program teaches the two sizes and furnishes a little practice in using both sizes--verbally, in the program. Thereafter, with occasional exceptions, the learner makes program responses applicable to the size of type on his present typewriter.

Still another instance of flexibility is the section on "Advanced Table Typing." Its subsections deal with separable aspects or varieties of tables, from which the teacher or trainee can make a selection, depending on student ability, level of proficiency sought, and length of course. That section and the one on "Advanced Business Letters" include matters that go beyond what is contained in most nonspecialized typewriting textbooks, extending into some rather demanding "senior" typing tasks. The section on "Manuscript and Report Typing" is at a somewhat more professional level than the treatments included in most typewriting textbooks and might be expected to be of immediate interest to the college or college-bound student. Finally, the section on "Estimation of Copy Length and Centering of Estimated Materials" provides something entirely absent from current typewriting textbooks: explicit procedures for making very close estimates of word length and of number of typed lines required--in advance of actual typing. The estimation procedures have been standard in transcription training of stenographers, but their equal applicability to typewriting seems not to have been appreciated in conventional typing instruction. The gross "judgment" methods occasionally mentioned in typewriting textbooks are so vague as to be virtually meaningless. Reasonably accurate "eye judgment" probably follows from large amounts of experience at more explicit estimation guidelines and might not be a viable initial tactic for trainees, at least not for ones of limited abilities.

A final characteristic that pervades the entire program is the objective of greater precision in placement than is commonly sought in conventional instruction or attained by conventionally taught trainees. Popular opinion to the contrary, on some issues it is just as easy to be just right as approximately right; on other issues, very little extra effort can lead to typed products that have the visual elegance of print. It is, after all, probably the haphazard appearance of some typing that is a significant part of employers' complaints about insufficient skills.

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placement scheme and the quick success of students in using it rapidly and skillfully. Interim testing of these students revealed virtually perfect vertical placement of letters by nearly all of them.

Program Organization. The organization and "packaging" of the program have already been partly described. For the purposes of immediate, more detailed discussion the program's contents are listed below.

Section	Topic	No. of Frames	No. of Pages
1	Centering at the typewriter	19	7
2	Horizontal centering of single lines	46	16
3	Vertical centering	34	12
4	Vertical centering of simple tables	37	13
5	Tables without column headings (backspace method)	40	14
6	Tables with column headings (backspace method)	26	9
7	Tables without column headings (arithmetic method)	22	8
8	Tables with column headings (arithmetic method)	31	11
9	Advanced table typing	105	36
10	Vertical margins for business letters	34	12
11	Horizontal margins for business letters	22	8
12	Advanced business letters	40	14
13	Estimation of copy length and centering of estimated materials	45	16
14	Manuscript and report typing	40	14
		541	190

The long, 105-frame section on advanced tables has its own table of contents and is formally divided into 8 subsections. The other 13 sections, as shown above, range from 19 to 46 frames, all but the shortest of which (Sects. 1 and 11) have one or more intermediate "stopping points," thus providing a series of single assignments, each of which can be completed in from 10 to 30 minutes. The sections may be used in a number of orders: e.g., letters before or after tables, reports before or after letters or tables, and so on. In short, the program consists of a comprehensive curriculum from which selection can be made for trainees of varying ability, for various instructional objectives, in courses of various lengths. Since each section begins on a new page, it is readily possible to package selected sections for particular trainees or training objectives: e.g., simple centering (Sections 1-3), simple tables (Sections 4-6 or 4, 7-8 or 4-8), simple letters and tables (Sections 10-11, 4-6 or 10-11,

4, 7-8), simple and advanced letters Sections 10-12), copy estimation and advanced letters and/or report typing (Sections 13, 12 and/or 14), etc.

Program Format. Exclusive of front matter each of the 190 (8-1/2" x 11") program pages contains 3 frames. Each frame is confined within a 3-1/4" x 5" area, bounded by rules. In the present version, a down-the-page format is used. That is, model answers appear alongside (to the left) of the following frame. With a down-the-page format, the eye can readily stray to the model answer in advance. However, the uniform alignment of frames on all pages permits an alternative, turn-the-page format that would prevent inadvertent "cheating." Advance recourse to answers would require deliberate page turning. Down-the-page format is more economical of space, however, if frame depth varies with frame content. For example, the majority of the frames in the present program do not use the full 3-1/4" depth allotted. Thus, many pages could have been formatted 4, 5, or even more frames per page. However, such a format would require the facilities and expertise of a professional printer. The present program was duplicated for field trial by multilith process at a university duplicating service.

When judged helpful and appropriate, model answers are accompanied by an explanation, most often when arithmetic is involved. For example, a frame might require the trainee to specify the left margin setting in a table that is 50 spaces wide. The model answer, with the applicable arithmetic shown after it, appears (for elite type) as: 26 [1/2 of (102 - 50) = 52/2 = 26]. By that tactic, corrective information for wrong answers is furnished to the trainee.

Trainee responses in the program are overt; he is asked to fill in blanks. To permit these longhand responses, blank length is two elite spaces for each longhand character; e.g., if a blank calls for the 6-letter word double as a response, the blank for that response is 12 elite spaces wide. Sufficient vertical space for longhand is provided by the routine use of 1-1/2 vertical spacing of frame lines. Single spacing is used only for lines that do not contain response blanks and, even then, only when space was at a premium.

Program Style and Language Level. Branching is provided for horizontal margin setting for business letters in pica and elite type and for vertical placement of letters using a moving vs. a fixed dateline. With these exceptions, the program is a linear one. Branching, in the sense of routing those who make errors through remedial frames before they return to the main track, was not employed--partly because an already long program would have been made immensely and unmanageably longer. Mainly, however, branching programs do not readily lend themselves to the composed responses that are preferable to selected ones. In life, the typist does not choose from a small number of listed options; he must "compose" a response drawn from an unspecified number of possibilities. In this program selected (multiple choice) responses are used only when it was judged necessary to limit the class within which the response should fall. To illustrate with a response furnished by a trial subject to an early-draft frame: to the item "An up-and-down direction is _____,"

the response was "Like this (gesturing with her hand)"--despite an earlier frame that used the terms "horizontal" and "vertical." Accordingly, the frame was revised as: An up-and-down direction is _____.
(horizontal/vertical)
(The student chooses from among options given in parentheses below the response blank.) With many exceptions of the sort just illustrated, the program is primarily a composed-response one. To recapture some of the benefits of remedial branching--or, strictly speaking, to provide sufficient practice for those who make errors--every concept and process in the program appears and reappears several times, at intervals, in various settings. Nothing is said or done once and only once. The program has substantial redundancy of process and concept, but not of identical responses to identical stimuli.

After each little subsection of the program, of which there are 48, there is "A little TEST." Each of these consists of uncued, unprompted, unguided materials designed to assess the extent to which the trainee has learned from the program.

Concerning language level or comprehensibility of the program verbiage, the program is intended for those with the reading deficiencies characteristic of the urban disadvantaged student. However, the usual indices of reading level may not be particularly pertinent; nor is it clear how such indices should be applied to prose that contains blanks or to frames containing columnar displays (in the sections on tables) that are not, in the usual sense, read for meaning. Besides, conceptual load, rather than language attributes, might be the more important considerations in programs of this kind. These reservations notwithstanding, syllabic intensity (mean number of syllables per word) and mean number of words per sentence (exclusive of blanks and of displays not to be read for meaning) were computed for every fifth frame in each of the 14 sections of the program, beginning with frame number 5 in each section. For the sample of 105 frames, mean number of syllables per word was found to be 1.37 (SD = .10), which is at the borderline between 7th- and 8th-grade levels, according to Fry (1968). Mean number of words per sentence was 15.2 (SD = 5.1), which is at low 6th-grade levels, according to Fry. Relatively little can be done to reduce the syllable count because of the inevitable abundance of such polysyllables as: horizontal, vertical, centering, typewriter, backspacing, intercolumn, underscore, et al. At the possible cost of some choppiness, sentence length is probably reducible by converting into separate sentences ones that presently consist of a series of clauses separated by semicolons or commas. For example:

> As shown above, the typed matter has 5 + ____ + 5 = ____
>
> spaces, and the ICs contain 3 + ____ = ____ spaces, for a
>
> total in the longest line of ____ spaces.

could be revised (turning one sentence into three) as:

> As shown above, the typed matter has 5 + ____ + 5 = ____

spaces. The ICs contain 3 + ____ = ____ spaces. The total

in the longest line is ____ spaces.

Revisions of that sort would reduce the formal measure of sentence length. Whether such changes have any effect on readability is another question.

For the sample of 105 frames, average frame length was 70.9 words or 4.7 sentences. The shorter (1- or 2-sentence) frames typically contain 1 to 3 response blanks. More often, longer frames containing more response blanks were necessary in order to "track" the learner through the sequence of steps or decisions applicable to some piece of work.

Syllabic intensity is an indirect and, in fact, a weak index of vocabulary level. For example, its correlation with word frequency for the vocabulary of written business communication was found to be -.08 (West, 1968). However, some measure of protection against the use of too difficult a vocabulary in the frames was furnished by the trial procedures employed during program preparation and by the editorial suggestions of consultants, described next.

Program Trial. Draft frames were typed on 3" x 5" cards, with model answers on the reverse side. A number of students from two high schools were paid by the hour for serving as trial subjects on draft versions of the program. Each worked with the writer individually, reading aloud and filling in blanks orally, without access to model answers. Oral reading of such materials is substantially more difficult than silent reading, but pauses and stumbling in the reading served to identify awkwardnesses in sentence structure, vocabulary difficulties, and, most important, errors in step size, in the rate at which prompts or hints were "vanished," and in the frequency of review and summary frames. Revisions were made accordingly and the revised version tried on a new subject. Subjects for the early sections had had no typing instruction whatever and were clearly at a disadvantage in relation to intended users of the program, who would have at least two or three months of typing instruction before entering the program. Later sections of the program were tried on subjects whose earlier formal typing instruction covered the matters taught in earlier sections, but not those treated in the sections for which they served as trial subjects. A minimum of two subjects, usually three, worked through successive versions of Sections 1-8, 10-11. It was not possible to secure from the high schools persons whose earlier training extended far enough to permit their use as trial subjects for the latter parts of Section 9 (advanced table typing) or for Sections 12-14. The high schools within easy traveling distance of the writer's office serve a disadvantaged student body for whom a decidedly modest clerical-typing curriculum is provided. With one exception, trial subjects were judged to be youngsters of below-average intellectual capacities (perhaps 85-95 IQ). The one exception was a shorthand major of Puerto Rican extraction who spoke accented English and who whizzed through portions of the difficult Section 9 almost as fast as she could read and nearly faultlessly. If that sample of N = 1 is representative of shorthand majors, the program is an easy one for those whose intellectual capacities extend through shorthand learning.

Some idea of vocabulary revisions may be gained from an illustrative instance. Version 1 (from a frame on horizontal centering): ". . . the extra space may be put either at the left or at the right. It does not matter on which side you put it--so long as you are consistent." Version 2 (because the trial subject did not know the meaning of consistent): ". . .--so long as you always put it on the same side each time: always at the left or always at the right."

Far more striking than deficiencies in vocabulary exhibited by trial subjects were their perceptions about learning from written materials. Each subject read (i.e., made oral speech sounds) with unfailing ease. One, in fact, read with a dramatic flair that would lead one to suppose she were auditioning for a role in a play. Yet, at the start, errors were rife; subjects often could not respond to the blanks or responded incorrectly. Patient questioning by the author, on a sentence-by-sentence basis in a rereading of the first few frames, routinely elicited an "Aha" phenomenon from subjects: "Oh, you mean I 'sposed' to pay attention to what it says?" or "I get it, I have to learn what I'm reading." With that fundamental understanding clarified, matters improved substantially, and large numbers of right answers were forthcoming--however slowly for some subjects and some frames. The matter is mentioned because it is provocative for any instruction of disadvantaged students that requires reading. For some, the difficulties might lie, in some part at least, in attitudes toward reading, in their perceptions of the purposes of reading, rather than in incapacity. To whatever extent attitudes and perceptions may be consequential, a chief role of the teacher who uses programed instruction materials like these is a motivational one.

Following program revisions based on the responses of trial subjects working with the author individually and reading orally, the program sections were edited by two chairmen of Secretarial Studies Departments in two New York City vocational high schools serving disadvantaged students. Their suggestions for stylistic revisions (vocabulary, sentence structure, clarity) were nearly always accepted and further revisions made accordingly. Less frequently--in fact, rarely--accepted was advice to drop completely the treatment of some matters that go beyond what is presently incorporated into the typing curricula of those schools. The author's hope is that with curricular materials addressed to the heart of the proper objectives of instruction, rather more can be accomplished than has been characteristic.

Conclusions

The project was devoted to the development of programed curricular materials for typewriting, in readiness for field trial among disadvantaged high school students. The resulting 541-frame, 190-page PROGRAMED TYPEWRITING materials appear in the appendix to this report, immediately following the References.

In accordance with empirical findings about the greater importance of cognitive over motor factors in accounting for proficiency at realistic typing tasks and in the light of the absence of pertinent training materials in conventional instruction, the present materials are devoted entirely to decision processes that determine attractive placement of the

typed product on the page. They are intended as an adjunct to, not a replacement for, the conventional typewriting textbook.

The materials are in programed form in order to individualize the instruction, to provide numerous, carefully sequenced opportunities to make the pertinent "placement" responses, to provide immediate feedback for those responses and, to the extent that the program is successfully self-instructional, to free, for more actual typing, class time that would otherwise be spent in explanations by teachers of matters of placement.

The materials provide a comprehensive curriculum and are organized in a fashion that permits selection from and ordering of sections of the program in accordance with student abilities, course objectives, and course length.

The ultimate objective is the reduction of complaints among employers about shortages of and insufficient skills among typists through the furnishing of a marketable skill to disadvantaged urban trainees, who currently complete clerical training with skills that bear little relationship to job requirements. The special demand for senior typists could also be met. The merit of the program for the former purpose involves field trial among disadvantaged urban high school trainees, currently at the midpoint in the classes of teachers whose students will be tested on the same materials used for the testing of their students a year earlier, after conventional instruction. That is, previous students of these teachers in the same schools furnish control-group scores following conventional (nonprogramed) instruction. Criterion scores of their present students, following use of the programed materials, will constitute experimental-group scores. However, as described in the earlier footnote (pp. 11-12), field trial is being conducted under other auspices, and no results are as yet available for inclusion in the present report.

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PROGRAMED TYPEWRITING
for
Decision-Making Aspects in Vocational and Personal Uses

Leonard J. West
City University of New York (Division of Teacher Education)

Section	Topic	No. of Frames	No. of Pages
1	Centering at the typewriter	19	7
2	Horizontal centering of single lines	46	16
3	Vertical centering	34	12
4	Vertical centering of simple tables	37	13
5	Tables without column headings (backspace method)	40	14
6	Tables with column headings (backspace method)	26	9
7	Tables without column headings (arithmetic method)	22	8
8	Tables with column headings (arithmetic method)	31	11
9	Advanced table typing	105	36
10	Vertical margins for business letters	34	12
11	Horizontal margins for business letters	22	8
12	Advanced business letters	40	14
13	Estimation of copy length and centering of estimated materials	45	16
14	Manuscript and report typing	40	14
		541	190

Note

These materials were developed under a small contract with the U.S. Office of Education (Region II), under Project 9-B-074, in preparation for field trial under contract with the New York City Board of Education (Business Education Proposal No. 1, 1969-70). Local publication of these ready-for-trial materials is as: Research Report 70-2, February 1970.

How to Use These Instructional Materials

These materials are an example of what is called Programed Instruction. They are designed so that you can learn from them without the aid of a teacher and are different from ordinary textbooks.

The materials are "programed" in a series of small steps called frames. Each frame gives a bit of information. You show that you have understood the information by filling in one or more missing words in the frame. In that way, you will be paying close attention and will be taking an active role in your learning. After you have filled in the blanks, check your answers against the model answers given alongside the next frame.

A program is not a test. The frames are designed to teach you, not to trick you. You fill in blanks only to see whether you have learned the information given in the frames.

Three features of programed instruction give these materials a simple appearance:

1. The step-by-step presentation of subject matter
2. Your activity in filling in the blanks
3. The immediate checking of your answers against model answers

But it is just these three features that insure that you will learn, PROVIDED you give full attention and complete concentration to each frame. If you skim through the program in a casual way, you will not learn much.

This is what you do:

1. Read each frame carefully and fill in the blanks. Sometimes a frame will have one blank, sometimes several.

2. After you have filled in all the blanks in a frame, check your answers against the model answers shown at the left of the next frame.

a. Your answers will usually be correct IF you have read the frame with close attention and IF you remember what you learned in earlier frames. If they are correct, go on to the next frame.

b. If your answers are wrong, read the frame again or refer back to the earlier frame that contains the necessary information. Try to understand why your answers are wrong and why the model answers are the correct ones. In that way you will probably avoid making the same kind of mistake again. Do not erase any wrong answers you may make; instead, draw a light line through your wrong answer and fill in the correct answer above (or below or alongside) your original wrong answer. When you have made the correction, go on to the next frame.

3. Continue in this manner throughout the program:

   Read attentively
   Answer by filling in blanks
   Check your answers against the model answers
     Reconsider your answers if they were incorrect; lightly line out any wrong answer and fill in the correct one
   Continue with the next frame

Since a program is not a test, you have nothing to gain--and much to lose--if you look at the model answers in advance. Cover the model answers with a card; uncover and examine them only <u>after</u> you have written in your answers.

In this program each frame has one or more blanks to be filled in. Some examples of the types of fill-ins are given below. Notice that the model answer is given alongside (at the left) of the next frame.

		What You Do
	1. The day after Monday is _____.	Write <u>Tuesday</u> in the blank
Tuesday	2. The first president of the U.S. was _____. (a/b/c/d) a. Thomas Jefferson b. Abraham Lincoln c. George Washington d. Woodrow Wilson	Write the <u>letter</u> of the correct answer in the blank--write <u>c</u> (for George Washington)
c	3. A week has _____ (how many?) days.	Write <u>7</u> in the blank
7	4. The number of states in the Union is _____. (48/49/50)	Select the right answer from the choices given in parentheses and write it in the blank--write <u>50</u>
50		

The four most important points are these:

1. Don't just read the frames; <u>read with close attention</u>.
2. <u>Remember</u> what you learn in each frame so that you can use the information in later frames.
3. Before you fill in a blank, <u>make sure you understand the question</u>.
4. If an answer does not occur to you immediately, <u>don't give up too quickly</u>. THINK about it and try hard to supply an answer before you look at the model answer.

When you complete this section, you should understand the meaning of centering at the typewriter and be able to judge whether typed material is attractively arranged on the page.

1-0

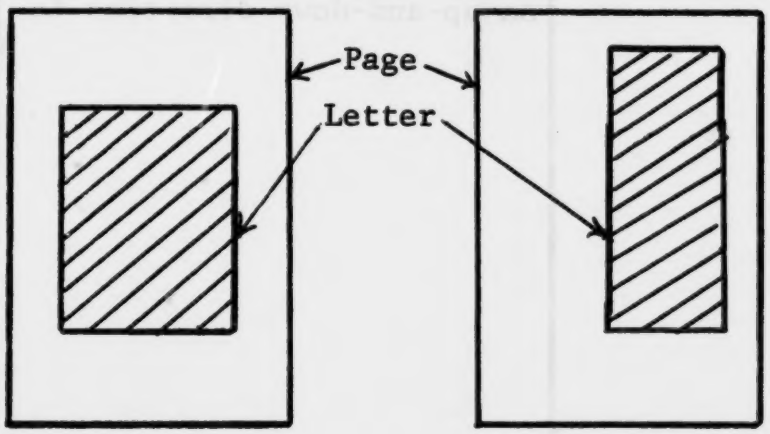
Section 1

Centering at the Typewriter

19 Frames

1-1

Good typing means more than just striking the right keys at a good speed. A typist's work must also be attractively arranged on the page.

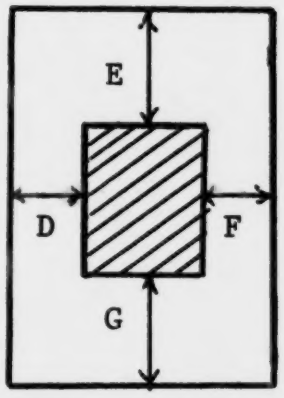


The shaded areas at the left represent business letters typed on ordinary stationery. Of the two, the one that is more attractive is _____.
(A/B)

A

1-2

Nearly always, a typed item will be attractive on the page if it is centered. A centered item has as much blank space to the left of it as to the _____ of it and as much blank space above it as _____ it.



For example, the shaded area at the left is centered from side to side because the distance at D equals the distance at _____.
(E/F/G) The shaded area is centered up and down because the distance at E equals the distance at _____.
(D/F/G)

right

below (or synonym)

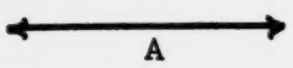
F

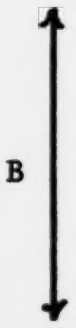
G

1-3

Vertical means up and down.

Horizontal means from side to side.





Of the two arrows at the left, the one that is horizontal is _____.
(A/B)

A

1-4

Let's use H for horizontal and horizontally.

Let's use V for vertical and _____.

An up-and-down direction is _____.
(H/V)

vertically

V

1-5

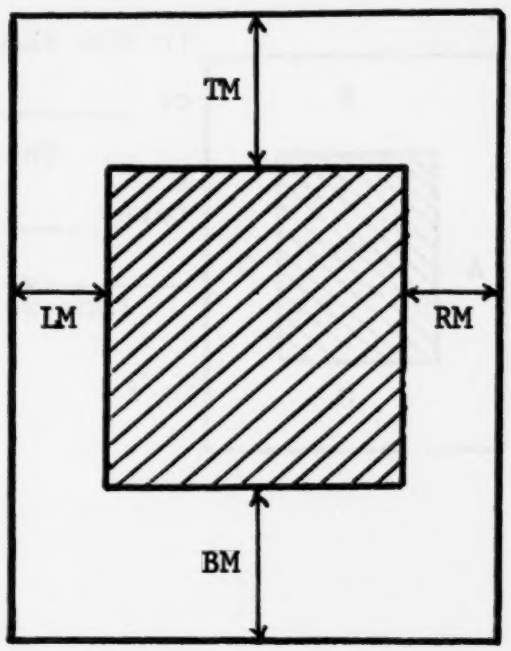
H stands for _____ and, also, _____.

V stands for _____ and, also, _____.

horizontal (and)
horizontally

vertical (and)
vertically

1-6



The blank areas around a typed item are called the margins. There are four of them: TM (top margin), BM (bottom margin), LM (left margin), and RM (_____ margin). In the sketch at the left you can see that the distance at TM = the distance at ____. Also, LM = ____.

right

BM

RM

1-7

LM and RM are the _____ margins. TM and BM are the _____ margins.
(H/V) (H/V)

H

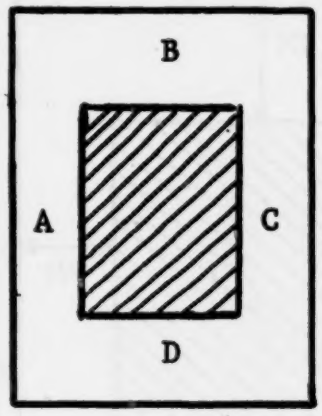
V

1-8

A shorter term for horizontal margins is <u>side</u> margins. The side margins are the distances to the left and _____ of a typed item. For the distances above and below a typed item, there is no shorter term; they are called the _____ margins.
(one word)

right
vertical

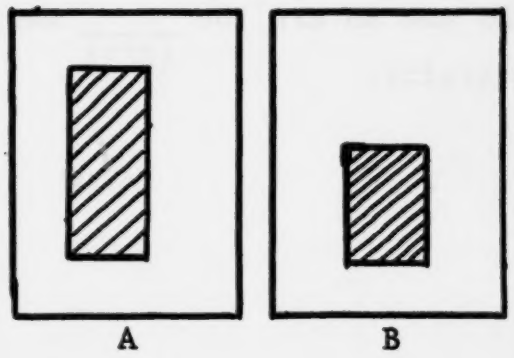
1-9



In the sketch at the left, the horizontal or _____ margins are lettered ____ and ____. The other margins, which are lettered ____ and ____, are called the _____ margins.
(one word)

side
A (and) C
B (and) D
vertical

1-10



Horizontal centering is separate from vertical centering. An item could be centered H, but not V. That is, it could have equal side margins, but unequal vertical margins, as in sketch _____.
(A/B)

Or it could be centered V, but not H. That is, it could have equal top and bottom margins, but unequal side margins, as in sketch _____.
(A/B)

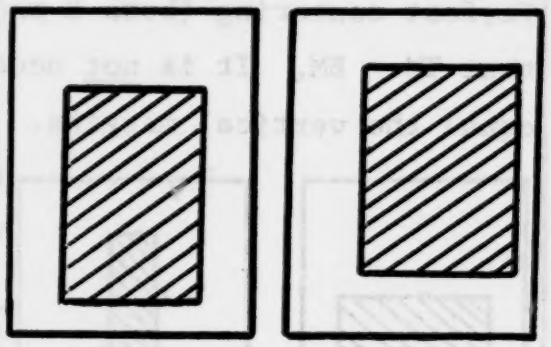
B
A

1-11

An item that is not centered is said to be "off-center." An item could be centered horizontally (equal side margins) but be off-center vertically (unequal top and bottom margins). If an item has equal top and bottom margins, but unequal side margins, then it is centered _____ but off-center _____.
(H/V) (H/V)

V
H

1-12



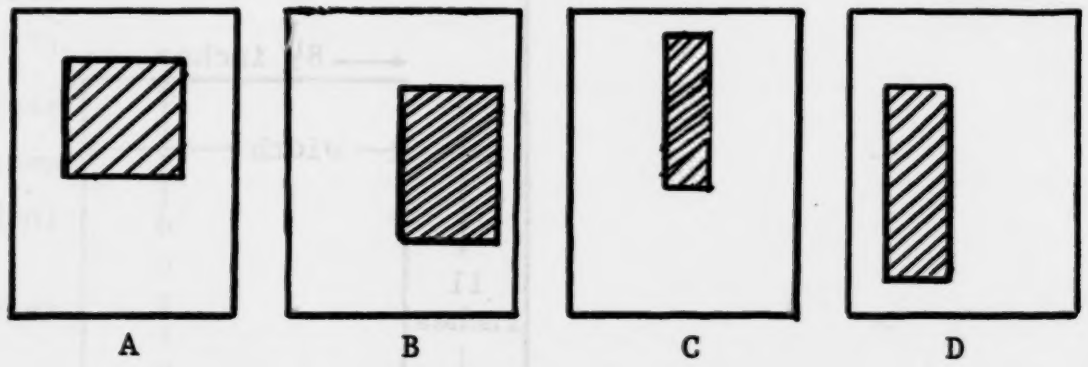
Because the side margins are not equal, item _____ is off-center _____.
(A/B) (H/V)

Because TM does not equal BM, item _____ is off-center _____.
(A/B) (H/V)

B
H
A
V

1-13

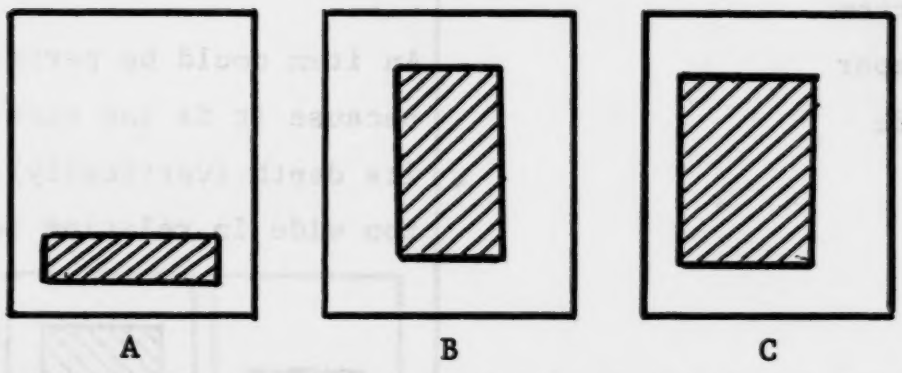
Which one or more of the items below do you believe to be off-center horizontally? _____ Vertically? _____
(A/B/C/D) (A/B/C/D)



B, D

A, C, D

1-14



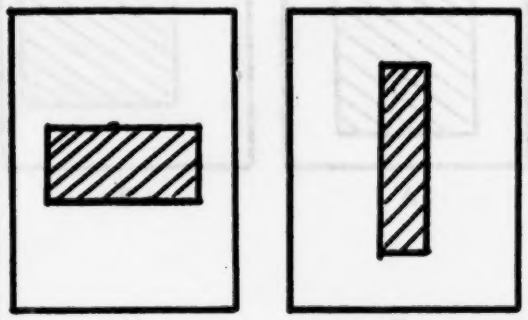
Which sketch (A, B, C) fits each of the following descriptions?

	Sketch
Centered both H and V	____
Centered V but not H	____
Centered H but not V	____

B
C
A

1-15

Perfect centering (both H and V) requires that LM = RM and that TM = BM. It is not necessary that the side margins equal the vertical margins.

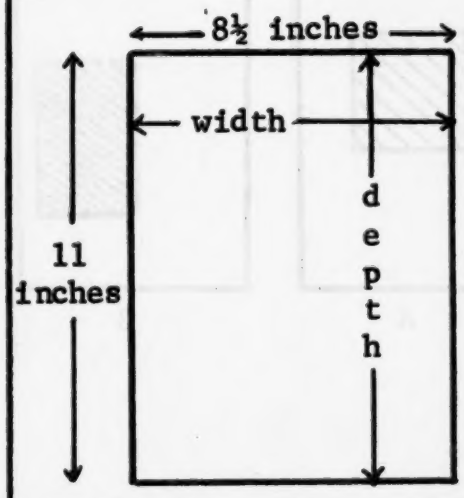


Perfect centering--both H and V--is shown at the left in _____.
(only A/only B/both/neither)

both
(because in both sketches LM = RM and TM = BM)

1-16

The width of an item is its distance from side to side. The depth of an item is its distance from top to _____.

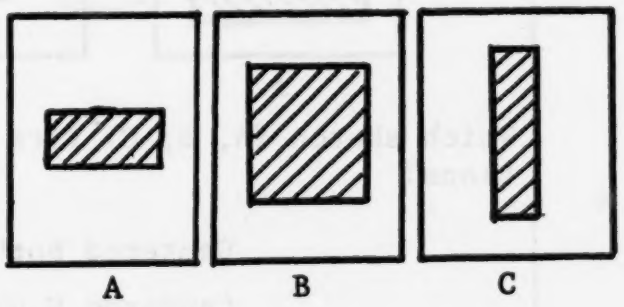


After a number, the quotation mark (") stands for inches. Ordinary stationery, sketched at the left, measures 8½" x 11" (8½ by 11 inches). It is _____ than it is _____.
(deeper/wider) (deep/wide)

bottom
deeper
wide

1-17

An item could be perfectly centered, yet be unattractive because it is too narrow (horizontally) in comparison with its depth (vertically), as in sketch ____. Or it could be too wide in relation to its depth, as in sketch ____.

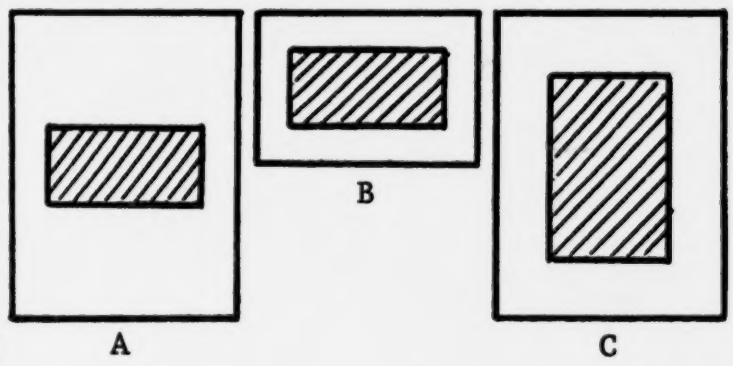


A more pleasing relationship between the side and vertical margins is shown in sketch ____.

C
A
B

1-18

If the paper on which you are typing is deeper than it is wide, then the typed material on it should be deeper than it is _____, as in sketch ____. On the other hand, if the paper on which you are typing is wider than it is deep, the typed material on it should be wider than it is _____, as in sketch ____.



wide
C
deep
B

1-19

Here's a little TEST on the main terms and ideas about CENTERING covered in Frames 1 to 18.

1. Side-to-side centering is called _____ centering. It requires equal _____ margins.
2. Up-and-down centering is called _____ centering; it requires equal _____ and _____ margins.
3. On 8½" x 11" stationery, an attractively centered item is one that _____.
   (a/b/c)

   a. has side margins that equal vertical margins
   b. is deeper than it is wide
   c. is wider than it is deep

1. horizontal
   side (or left and right)
2. vertical
   top (and) bottom
   (either order)
3. b

When you complete this section, you should know:

1. How to determine the size of type on your typewriter.
2. How to find the center point on paper of any width.
3. How to prepare the typewriter for horizontal centering.

In either of the two common sizes of type:

4. How to center horizontally by arithmetic.
5. How to center horizontally by backspacing.

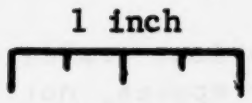
2-0

Section 2

Horizontal Centering of Single Lines

46 Frames

2-1



Pica: correspond
Elite: corresponded

Horizontal centering depends on the size of type. The two common sizes are pica (pronounced "pie-ka," not "peeka") and elite (pronounced "ay-leet," not "ee-light").

You can tell by counting the number of letters in the examples above that one horizontal inch contains _____ (how many?) pica spaces or _____ (how many?) elite spaces.

10
12

2-2

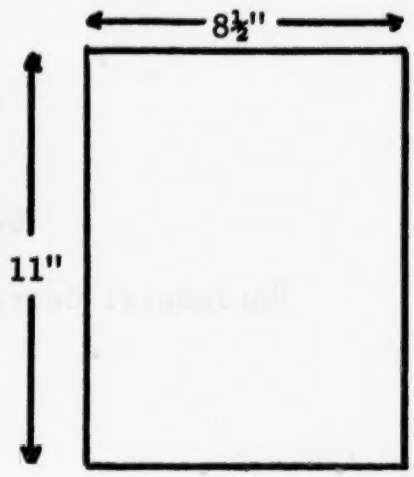
In each horizontal inch of pica type there are ____ spaces.
In each horizontal inch of elite type there are ____ spaces.

This is a sample of pica type.
Elite type is shown in this example.

Compared with elite type, pica type is _____ (smaller/larger) and therefore _____ (more/less) legible (readable). Because the type is smaller, you can get more words on the page in _____ (pica/elite) type.

10
12
larger
more
elite

2-3



Standard-size stationery or typing paper, sketched at the left, is ____ inches wide and ____ inches long.

A little x is the "times" sign, as in 2 x 4 = 8. But in expressing dimensions, as in 8½" x 11", the x stands for the word _____.

8½
11
by

2-4

The various scales on the typewriter are marked in typewriter spaces, not in inches. Therefore, to center an item horizontally, you must know how many <u>spaces</u> wide the paper is. You must convert or change inches into spaces.

See the arithmetic at the right. It shows that across 8½ inches of paper, with 10 pica spaces to the inch, there are 8½ x 10 (which is 8 x 10 plus ½ of 10) = ____ spaces.

```
   10
 x 8½
 ---
   5
+ 80
 ---
 ---
  ?
```

In elite type, paper is 8½ x 12 = ____ spaces wide.

85
102

2-5

<u>Note</u>. When you see a * after a word, look at the <u>footnote below</u>.

Here's how to determine the size of type.* Hold the left edge of your paper at zero on the carriage scale or paper bail scale. If the right edge of the paper reaches 85 on that scale, you have _____ type. On the other hand, if it reaches ____, you have _____ type.

*The procedures described here apply only to typewriters with zero at the left edge of the scale.

pica
102
elite

2-6

The center of a 12-inch ruler is at the 6-inch point (½ of 12 inches). The horizontal center of a page that is 102 elite spaces wide is at half of 102, which is ____.

51

2-7

In the same way, the center of a pica page is at ½ of 85, which is 42½. However, the typewriter scale is marked in whole, not half, spaces. For pica type, we must throw away the ½ and use ____ as the center.

42

2-8

The center point depends on the width of the paper. Only on paper that is 8½ inches wide is the pica center at ____ and the elite center at ____.

For each different width of paper there is a different center point. Some personal stationery is 5 inches wide, containing 5 x 10 = ____ pica spaces. Its pica center is at ½ of ____, which is ____. Its elite center is at ____.

42
51
50
50
25
30 (½ of 5 x 12)

2-9

To say that something has been centered horizontally is to say that half of it is to the left of the center and the other half to the _____ of the center. For example, if a 4-letter word were centered horizontally, there would be ____ letters on each side of the _____.

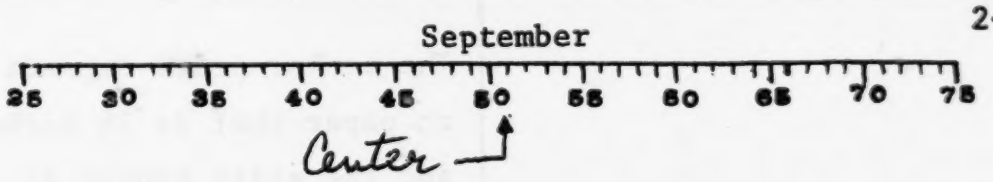
right
2
center
(or middle or midpoint)

2-10

A 6-letter centered word would have ____ letters on each side of the center. A 10-letter word would have ____ letters on each side of the center.

3
5

2-11



A portion of an elite typewriter scale is shown above, with the word September centered above it.

You can see that the numbers on the scale get higher as you go to the _____ and that the beginning of any cen-
(left/right)

tered item starts to the _____ of center, at a scale
(left/right)

number _____ than the center point.
(lower/higher)

right
left
lower

2-12

To center something horizontally, you have to find the point on the carriage scale at which to start the typing. If you start at the correct point, how much of the item will be on each side of the center when you finish typing? _____

half

2-13

A horizontally centered 4-letter word would start ____ spaces to the left of center; an 8-letter word would start ____ spaces to the _____ of center.

2
4
left

2-14

If a 4-letter word is to start 2 spaces to the left of center, in pica type (center at 42) it would start at 42 minus 2; that is, at ____ on the carriage scale.

To find the starting point for centering any word, subtract from the center point of the page half the number of letters in the word. For example, a 6-letter word in elite type (center at ____) would start at ____ minus ____, which is ____ on the carriage scale.

40

51

51 - 3

48

2-15

The steps in horizontal centering are:

1. Count the number of typewriter strokes in the item to be centered.
2. Divide that number by 2.
3. Subtract the result from center (42 pica, 51 elite).

Apply the above steps to the pica centering of the word typewriter.

Step 1: The word has ____ letters.

Step 2: Half of ____ letters is ____ letters.

Step 3: Subtract ____ from the pica center at ____, resulting in ____.

1. 10
2. 10 (is) 5
3. 5 (from) 42 (resulting in) 37

2-16

Here's how to find the starting point for typing any item to be centered horizontally. Count the number of typewriter strokes in the item and subtract _____ that number from the center point.

half

2-17

To center the word Services in elite type, you would subtract ____ from ____ and start to type at ____ on the scale.

4
51
47

2-18

An item to be centered horizontally could contain several words and it could include numbers, punctuation marks, or special characters. Therefore you must count everything that takes a space on the page--everything that, when typed, moves the carriage a space. For example, My Story contains ____ letters and ____ space(s) between words--for a total of ____ typewriter strokes.

7
1
8

2-19

Notice the stroke count (numbered below the item):

Fall Sale
123456789

From the example above, you can see that the space between words _____ counted.
(is/is not)

The Zoo Story counts as ____ typewriter strokes.

is
13

2-20

How many typewriter strokes (letters, spaces, numbers, punctuation marks, symbols) are there in each of the following items?

	No. of Strokes
Horizontal Centering	____
A $50 Bargain	____
Flight to the Moon	____
"Spot," The Friendliest Dog	____

20
13
18
27

2-21

Now count these:

No. of Strokes

World's Records ___

The Mysterious Stranger ___

CBS News ___

Washington, D. C. ___

15
23
8
17

2-22

Now a brief TEST on what you have learned so far.

1. There are _____ common sizes of typewriter type.
(how many?)

   a. In the larger one, called _____ type, each horizontal inch contains ___ spaces and, across an 8½-inch page, there are ____ spaces.

   b. In the smaller type, called _____, each inch contains ____ spaces and, across an 8½-inch page, there are ____ spaces.

2. In the larger type, the center point is at ____; in the smaller type, at ____.

[Test continued in the next frame.]

1. 2

   a. pica
      10
      85

   b. elite
      12
      102

2. 42
   51

(Test continued) 2-23

3. To find the starting point for an item to be centered horizontally, you subtract _____
(what from what?)

_____

_____

4. To center Spring Clearance in pica type, you would start to type at ____ on the carriage scale. In elite, a centered World's Fair would start at ____.

[This frame makes a convenient stopping point. Or you may wish to continue through Frame 2-38 or 2-44 or 2-46.]

3. half the number of typewriter strokes from the center point
(or equivalent answer)

Note. The diagonal or fraction bar (/) is also a division sign. 12/2 means 12 ÷ 2.

4. 34 (42 - 16/2)

45 (51 - 12/2)

2-24

The arithmetic of counting strokes and subtracting _____ that number from the _____ point has been described only to insure that you understand the thought behind horizontal centering. In actual practice, no typist does arithmetic to center single lines; he lets the typewriter do the arithmetic for him. A first step is to position the carriage at the center point. In the large type called _____, the center is at ____; in the smaller type called _____, the center point is at ____.

half

center

pica
42

elite
51

2-25

You realize, of course, that 42 (or 51) will be at the center of your page if and only if the left edge of the page is exactly at zero at the left edge of the carriage scale. Therefore, first set your paper guide exactly at _____ and insert your paper with its left edge right up against the _____.
(what machine part?)

zero

paper guide

2-26

With paper guide set exactly at _____ and paper inserted up against the guide, get your margins out of the way by setting them to the extreme left and right of the machine. Then clear all tab stops and set a tab stop at 42 (pica) or at 51 (elite)--which are the horizontal center points for paper that is _____ inches wide.

zero

8½

2-27

Horizontal centering of single lines by machine (rather than by arithmetic) starts at the center point. Since you have set a tab stop at that point, to reach it from your left margin all you have to do is to depress the _____ key or bar.

tab(ulator)

2-28

You probably remember from an earlier frame in this program that a horizontally centered 8-letter word would start ____ spaces to the _____ of center. For that 8-letter word, instead of subtracting _____ spaces from the center point, you could backspace ____ times from the center point.

(left/right)

(how many?)

4

left

4

4

2-29

Assume that you have tabulated to the center point of your page and that you want to center a 6-letter word. Instead of first counting the number of letters in the word, you could backspace once for each two letters in the word. If so, you would backspace _____ times.

(how many?)

3

2-30

You do not have to count the number of letters in order to determine how many times to backspace from the _____ point. Instead, just spell the word in groups of two letters. As you spell each 2-letter group, depress the _____ key once.

center
backspace

2-31

Just for illustration, a vertical line is used to separate the 2-letter groups, as in the word ce|nt|er. To center that word, you would spell ce and backspace once; then spell nt and backspace again; finally, spell er and backspace a third time. After these _____ (how many?) backspaces your carriage would be at ____ (pica) or at ____ (elite).

3
39
48

2-32

The example at the right shows the 2-letter groups and the number of backspaces needed to find the starting point for typing the word.

ty|pe|wr|it|er
1 2 3 4 5

Mark (in pen or pencil), by inserting vertical lines, the 2-letter groups in each of the words below and write in the blank the number of backspaces needed to position the carriage at the proper starting point for typing.

		No. of Backspaces
Example:	Ver|ti|ca|ly	5
	Circumstance	____
	Profit	____
	Calendar	____

Circumstance 6
Profit 3
Calendar 4

2-33

Spell out loud in groups of 2 and count on your fingers as you spell each group. Estimate how many seconds it takes you to do that for the word November.

How many 2-letter groups are there in November? ____

4

2-34

Now do arithmetic:

1. Count the number of strokes.
2. Divide that number by 2.
3. Subtract the result from 42 (pica).

Estimate how many seconds it takes you to carry out the three steps listed above for the word Industry.

In pica type you would start to type Industry at ____ on the scale.

38

2-35

Your time estimate for spelling in groups of 2 (Frame 2-33) is surely less than your estimate for doing arithmetic (Frame 2-34). As compared to centering by arithmetic, centering by the backspace method is much _____.
(faster/slower)

faster

2-36

When backspacing for each 2-stroke group, you must include everything that, when typed, moves the carriage a space. For example, the groups in My Story (spell them stroke by stroke) are: My space-S to ry, for a total of ____ backspaces. For Sale would be spelled as: Fo r-space Sa le, for a total of ____ backspaces. Consider: Profit Statement. Mark it with vertical lines to show that it would require ____ backspaces.

4

4

Profit Statement

8

2-37

Notice how punctuation and symbols are counted in Discount Sale, 10% Off.

Di	sc	ou	nt	space-S	a	l	e-comma	space-1	0%	space-O	ff
1	2	3	4	5	6	7	8	9	10	11	

To center the above item you would backspace ____ times. When you finish backspacing, your carriage will be at ____ (pica) or at ____ (elite).

11

31

40

2-38

The best way to find the starting point for centering an item horizontally is to _____.
(a/b/c)

a. Count the number of typewriter strokes in the item to be centered. Then subtract half that number from the center point.

b. Count on your fingers as you spell by 2's; then subtract your finger count from the center point.

c. Backspace as you spell by 2's--one backspace for each 2-stroke group.

[This frame makes a convenient stopping point; or you may wish to continue through 2-44 or 2-46.]

c

2-39

Every example used so far has had an even number of strokes--so that there is nothing left over when you have completed your spelling by 2's. If the item to be centered contained an odd number of strokes, after spelling by 2's there would be ____ stroke(s) left over.

1

2-40

When centering by backspacing ignore a leftover letter; do not backspace for it. The Zoo Story counts out as: Th|e-space|Zo|o-space|St|or|y. For the final y in that item, you _____ backspace. If you backspace correctly, you will backspace ____ times.
(should/should not)

should not

6

2-41

Here's a demonstration that backspacing and arithmetic give the same results. Assume elite type and consider My Story. Starting at 51, after backspacing for My you will be at 50; another backspace for space-S will bring you to 49; to will bring you to 48; and ry will bring you to ____. By counting and arithmetic, My Story has ____ strokes; subtracting half that number from ____ also results in ____.

47
8
51
47

2-42

Do not fall asleep over spelling by 2's. Spell fast and backspace rapidly as you spell. But depress the backspace key fully (or the carriage may not backspace). Don't punch the key (or the carriage may back up two spaces instead of one). On an electric typewriter with continuous backspacing, lift your finger off the backspace key after each tap. If you operate the backspace key improperly, your work will be _____.
(a/b/c)

a. Too high
b. Too low
c. Off-center horizontally

c

2-43

Now let's summarize the steps in horizontal centering of single lines.

1. Set the paper guide at _____.
2. Set side margins out of the way. Then clear tab stops and set one at ____ (pica) or at ____ (elite).
3. After setting a tab stop, to reach it from the left margin, depress the _____ key or bar.
4. To find the starting point for typing: depress the _____ key _____ time(s) for each
(how many?)
_____ typewriter strokes in the item.
(how many?)

1. zero
2. 42
   51
3. tab(ular)
4. backspace
   1
   2

2-44

Now a little TEST. Mark each item with vertical lines and fill in the blanks to the right of each item.

	Number of Backspaces	Starting Point Pica	Elite
Example: September Song	7	35	44
Discount--10%	____	____	____
January 14, 1969	____	____	____
"Hamlet," by Shakespeare	____	____	____

If you have a typewriter at hand, continue with the next two frames. If not, wait until you are at a typewriter.

Dis|count--10%
6 36 45

January 14, 1969
8 34 43

"Hamlet," by Shakespeare
12 30 39

2-45

On your (home, school, or office) typewriter, center and type each of the items below--one below the other in double spacing. Be sure to backspace <u>as</u> you spell by 2's. When you finish typing all three items, move the carriage to the starting point of each item and check the number on the carriage scale against the model answers.

1. How to Center

2. The Story of "Flash," My Siamese Cat

3. A $50 Bargain

	Pica	Elite
1.	36	45
2.	24	33
3.	36	45

2-46

If you made any mistakes on the preceding three items, it may be because you lost your place while counting off by 2's. With one finger on the backspace key, keep eyes on copy and, with the index finger of the other hand, point along the item <u>as you spell through it by 2's</u>. Now try these:

1. Balance Sheet, December 31, 1969

2. Summer Travel Bargains

3. Luncheon Special--$1.05

4. "Armies of the Night" Wins 1969 Pulitzer Prize

	Pica	Elite
1.	26	35
2.	31	40
3.	31	40
4.	19	28

When you complete this section, you should know:

1. How to determine how many typed lines fit on paper of various lengths.
2. How to center a set of lines vertically on the page.
3. How to check your starting line before you type.

3-0

Section 3

Vertical Centering

34 Frames

3-1

In a horizontally centered item, the left margin equals the right margin. In a vertically centered item, the _____ margin equals the _____ margin.

top (=) bottom
(either order)

3-2

Horizontal margins (and the width of the paper) are counted in spaces. Vertical margins (and the depth of the paper) are counted in lines. We type across the page in spaces and down the page in _____.

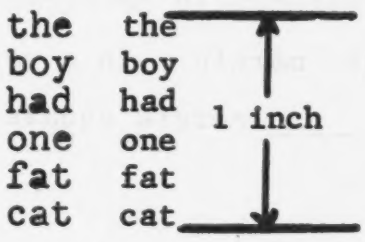
lines

3-3

To center horizontally we first had to determine that, across paper that is 8½ inches wide, there are ____ pica or ____ elite spaces. To center vertically we first have to change into number of lines paper that is ____ inches long or deep.

85
102
11

3-4



For horizontal centering, we had to know how many spaces across the page make one inch. For vertical centering, we need to know how many lines down the page fit in one inch.

As the examples at the upper left show, in both pica and elite type, 1 vertical inch contains ____ lines. Paper that is 11 inches long therefore contains a total of 11 x ____ = ____ lines.

6
6
66

3-5

With 6 lines to every vertical inch, government stationery (8" wide and 10" long) is ____ lines long. Personal stationery (5" wide and 8" long) is ____ lines long.

60
48

3-6

The arithmetic of horizontal centering can be done on the typewriter by using the _____ key. A different part of the typewriter can be used to do the arithmetic of vertical centering, but the method is a slow one and it is easy to make mistakes. It is better to do your own arithmetic for up-and-down or _____ centering.

backspace
vertical

3-7

If the 5-letter word <u>March</u> were centered horizontally in pica type, it would start at 40 on the carriage scale; that is, there would be 40 spaces in the LM (left margin). In horizontal centering, LM = RM. Therefore, the RM would also contain ____ spaces. Notice that--

LM + typing + RM = total spaces across the page.

That is: 40 + 5 + _____ = _____.

40
40 = 85

3-8

In the same way for vertical centering:

Number of lines in TM (top margin)
+ Number of lines of typing
Number of lines in BM (bottom margin)

= Total lines available on the page

That is, TM + typing + BM should equal (on 11" paper) ____ lines.

66

3-9

Suppose you wanted to center vertically 6 lines of typing. That would leave 66 minus 6 or ____ blank lines for the two vertical margins. Since TM should equal BM, divide the blank lines equally (by 2), resulting in leaving, in each of the vertical margins, ____ blank lines.

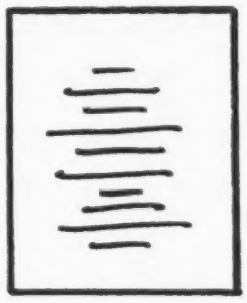
60

30

3-10

Vertical centering requires finding out how many lines of top margin there should be above your first line of typing.

To do that:



1. Count the number of lines to be typed.
2. Subtract that number from 66.
3. Divide the difference by 2.

If you apply those three steps to the sketch at the left, you will find that the TM will have _____ blank lines.
(how many?)

28
(66 - 10) ÷ 2

3-11

Think of starting with $1 (100 cents), spending part of it, and dividing your change equally into two pockets. If so, if you started with $1 and spent 60¢, you would get ____¢ change and would put ____¢ into each pocket.

40
20

3-12

Your two pockets are like the vertical (top and bottom) margins. But instead of starting with 100 cents, you are starting with ____ lines.

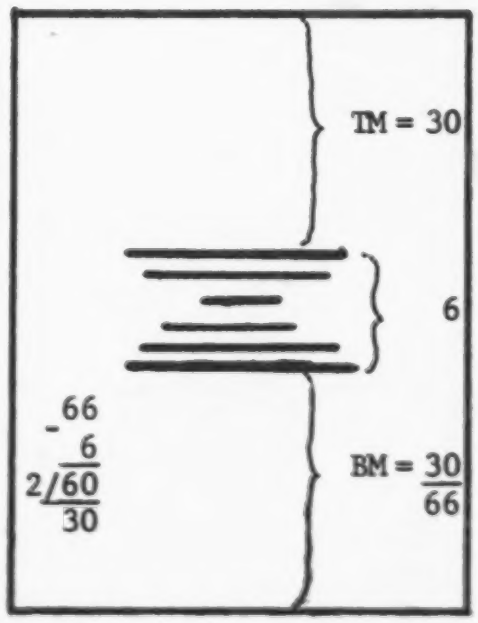
66

3-13

Fix in your mind two numbers: In each vertical inch there are ____ lines and, on a full 8½" x 11" page, ____ lines.

6
66

3-14



To determine the number of lines in each vertical margin, subtract the number of typed lines from 66 and divide the difference by 2.

At the lower left in the sketch, 66 - ____ = ____; and ____ ÷ 2 = ____. Notice (at the right) that TM = ____, typed lines = ____, BM = ____, and that TM + typing + BM = ____.

(66-) 6 = 60

60 (÷ 2) = 30

30
6
30
66

3-15

To determine the number of blank lines in each vertical margin, the steps are:

1. Count _____ (what?).

2. Subtract _____ (what from what?)

_____.

3. Divide the difference by ____.

the number of typed lines

the number of typed lines from 66

2

3-16

Fill in the blanks in the right-hand column.

Number of Typed Lines	Number of Lines in Top Margin
20	____
16	____
34	____
10	____

[This frame makes a convenient stopping point; or you may wish to continue through 3-19 or 3-23 or 3-27 or 3-34.]

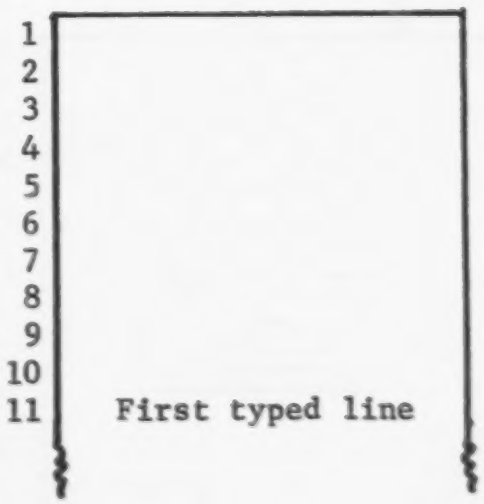
23
(66 - 20) ÷ 2

25
(66 - 16) ÷ 2

16
(66 - 34) ÷ 2

28
(66 - 10) ÷ 2

3-17



As shown at the left, if some vertically centered item requires 10 blank lines as a TM, your first line of typing must be on line 11. If you typed on line 10, there would be only ____ blank lines above your first line of typing.

9

3-18

For a 10-line top margin, start to type on line 11. For a 17-line TM, start to type on line 18. For a 23-line TM, start to type on line ____. When you have determined how many blank lines should be in your top margin, start to type $\frac{\text{_____}}{(a/b)}$.

a. on that line

b. 1 line lower down on the page

24

b

3-19

$$\begin{array}{r} -66 \\ 2\overline{)\,50} \\ +1 \\ \hline 26 \end{array}$$

The arithmetic at the left applies to the vertical centering of 16 lines. Notice that you first subtract the number of typed lines from ____, resulting in ____. Next, you divide by 2 and find that the TM should contain ____ lines. You start to type 1 line lower down on the page, on line ____. Use the sample arithmetic as a model to figure out that the first of 46 vertically centered lines would be typed on line ____ from the top edge of the paper.

[This frame makes a convenient stopping point; or you may wish to continue through 3-23 or 3-27 or 3-34.]

66

50

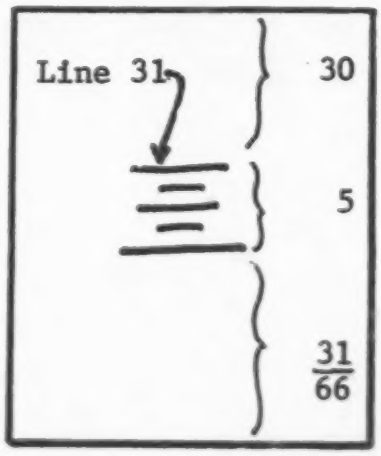
25

26

11

3-20

Sometimes, after subtracting the number of typed lines from 66, an odd number of lines remains for margins. If so, there will be 1 line left over after you divide by 2.



Example: If 5 of 66 lines are used for typing, 61 lines remain for margins. Division by ____ results in ____, with 1 line left over. Throw away the leftover line. Put ____ lines in your TM and start to type on line ____.

$$\begin{array}{r} -66 \\ 2\overline{)\,20} \\ +10 \\ \hline 11 \end{array}$$

2
30
30
31

3-21

When determining the TM for a vertically centered item, if there is 1 line left over after dividing total blank lines by 2, you _____ add it to your TM.
(should/should not)

should not

3-22

If some vertically centered item is to have a TM of 25 lines, you should start to type on line _____.
(24/25/26)

26

3-23

Remember that a full sheet of standard-size stationery or typing paper contains ____ lines from top to bottom. Fill in the blanks below.

	No. of Typed Lines	Total Blank Lines	Start to Type on Line
Example:	10	56	29
	36		
	15		
	18		
	23		

[This frame makes a convenient stopping point; or you may wish to continue through 3-27 or 3-34.]

66
30 16
51 26
48 25
43 22

3-24

We want a centered item to be not only attractive, but also easy to read. Therefore, single spacing is rarely used.

1 PROGRAMED INSTRUCTION
2
3 on
4
5
6 Centering
7 at the
8 Typewriter

Instead, some of the typed lines are usually separated by one or more blank lines. The example at the left contains ____ typed lines + ____ blank lines, for a total of ____ lines.

5
3
8

3-25

Just as you count the spaces between words when backspacing for horizontal centering, you count the blank lines between typed lines when you do _____ centering.

vertical

3-26

When you double space, you type on every second line. Therefore, double spacing gives you ____ blank line(s) between typed lines. In triple spacing, you type on every third line--leaving, between typed lines, ____ blank lines.

1 _____
x
2 _____
x
x
3 ____
4 _____
x
5 _____

In the sketch at the left, the typed lines are numbered and a little x stands for a blank line. In the sketch, the total of typed plus blank lines is ____. Triple spacing is used between the lines that are numbered ____ and ____.

1
2
9
2 (and) 3

3-27

The number of blank lines used to separate typed lines is a matter of judgment--not rule. In the same item, a person might feel that some of the lines should be single spaced, other lines double spaced, and still others triple spaced. In the example in Frame 3-24 (refer to it) the last three lines are _____ spaced, but the first two typed lines are _____ spaced. After the word on, there is a _____ space.

[This frame makes a convenient stopping point; or you may wish to continue through Frame 3-34.]

single
double
triple

3-28

Quite often, there are not enough lines to be centered to require using a full (66-line or 11-inch) sheet. Sometimes, a half-sheet is used. A half-sheet is ½ of 11 inches, or 5½ inches, long; it is half of 66, or ____, lines long.

33

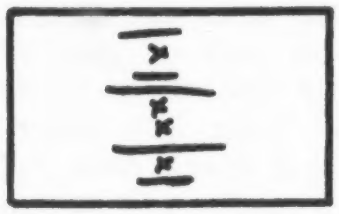
3-29

When using a half-sheet, instead of subtracting the number of lines of typing from 66, you subtract from ____ to determine the number of lines available for _____ (horizontal/vertical) _____ margins.

33

vertical

3-30



The example at the left has ____ typed lines + ____ blank lines, for a total of ____ lines. If it were to be centered vertically on a ½-sheet, you would subtract ____ from ____, resulting in ____. The TM would contain ____ lines, and the typing would start on line ____.

5
4
9
9
33
24
12
13

3-31

Mistakes in vertical centering are impossible to correct. Therefore it is wise to check your arithmetic and the correctness of your line count _____ you start to
(before/after)
type. Just make sure that: TM + typing + BM = 66 (or, on a ½-sheet, that the total = ____). On a full sheet, if there are 15 lines of typing, then the 51 blank lines divide into 25 and 26.

Here's the check:

25 TM
+ 15 typing
26 BM
= ?

before
33
66

3-32

A typist was about to center 12 lines vertically on a ½-sheet. His arithmetic showed 9 lines in the TM and 10 lines in the BM. Does TM (9) + typed lines (12) + BM (10) = 33? _____ Therefore, the typist's arithmetic
(yes/no)
_____ correct.
(is/is not)

no

is not

3-33

Don't take ages to space down to the starting line. Line up the top edge of your paper with the edge of the scale--so that if you were to strike a key, it would just miss the top edge. Next, set your line space regulator for triple spacing and space down rapidly, counting by 3's (3, 6, 9, 12, etc.) until you are as close as possible to the desired line. Then, reset for single spacing and space down the final line or two.

To reach line 19, use 6 triple spaces + 1 single space.

To reach line 11, use ____ triple space(s) + ____ single space(s). To reach line 24, use ____ triple space(s) + ____ single space(s).

3

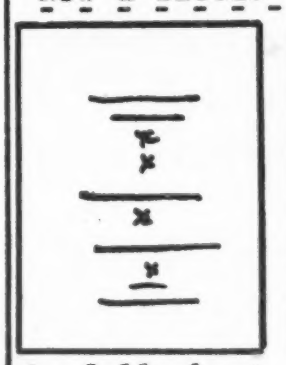
2

8

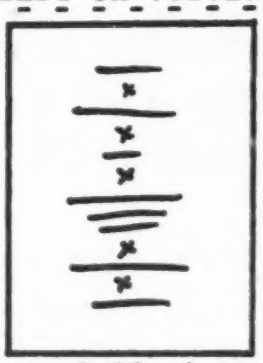
0

3-34

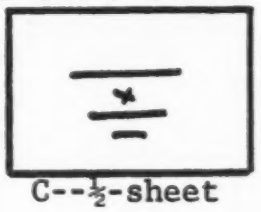
Now a little TEST on vertical centering.



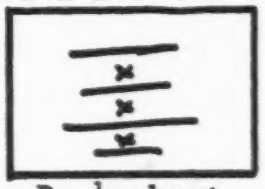
A--full sheet



B--full sheet



C--½-sheet



D--½-sheet

Sketch	Start to Type on Line
A	____
B	____
C	____
D	____

To reach line 17 most rapidly, space down ____ triple space(s) + ____ single space(s).

Note. The diagonal or fraction bar (/) is also a division sign. 12/2 means 12 ÷ 2.

A) (66-10)/2 = 56/2 = 28; and 28 + 1 = 29

B) (66-13)/2 = 53/2 = 26; and 26 + 1 = 27

C) (33-4)/2 = 29/2 = 14; and 14 + 1 = 15

D) (33-7)/2 = 26/2 = 13; and 13 + 1 = 14

5 (triple) + 2 (single)

When you complete this section, you should know:

1. How to center tables vertically.
2. How to type different kinds of headings.
3. How much vertical spacing to use between the parts of a table.

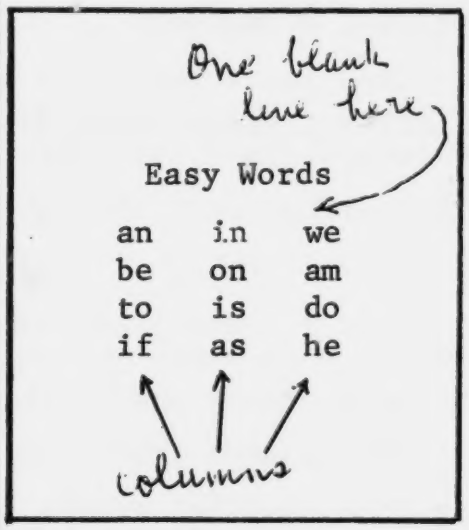
4-0

Section 4

Vertical Centering of Simple Tables

37 Frames

4-1



All typing must be attractively arranged on the page--that is, centered. In the table at the left, the TM (top margin) equals the BM (_____ margin) and the LM (left margin) equals the RM (_____ margin). Also, the space between columns 1 and 2 equals the space between columns ____ and ____.

bottom
right
2 (and) 3

4-2

Before reviewing the methods used for horizontal and vertical centering, remember that one types across the page in SPACES but down the page in LINES. In the side margins (left and right), one speaks of the number of _____. But in the vertical margins (top and bottom), one speaks of the number of _____.

spaces
lines

4-3

Let's review the method of vertical centering. Compare it with making a purchase and then dividing your change equally into two pockets. If you started with $1 (100 cents) and spent 60¢, you would get ____¢ change and would put ____¢ into each of the two pockets. Compare the $1 with the 66 lines on a full sheet of 8½" x 11" paper. If the table (including blank lines within it) used 16 lines, there would remain for vertical margins ____ lines, and half that number, or ____, lines, would be in the top margin. The typing would start 1 line lower, on line no. ____.

40¢
20¢
50
25
26

4-4

In vertical centering:

- Total lines available down the page
- Typed + blank lines WITHIN the table
= Unused lines available for TM and BM

Use that method with the table in Frame 4-1 (refer to it):

+ Total lines on an 11-inch page = 11 x 6 = ____
+ Typed + blank lines within Table 4-1 = ____
= Unused lines available for TM and BM = ____

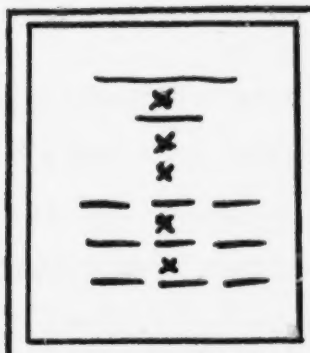
Then: TM = unused lines ÷ 2 = ____. The first line of typing (the heading) starts on the _____ (same/next) line--on line number ____.

66
6
60
30
next
31

4-5

If there is a line left over after dividing the unused lines in half, do you add it to your top margin? _____ If the table in Frame 4-1 (refer to it) were typed on a half-sheet, containing half of 66, or ____, lines, then the lines available for TM + BM would be ____ minus ____ = ____. Dividing ____ by ____ results in ____ lines in the TM. The first line of the table (the heading) would be typed on line no. ____.

4-6



To center vertically, first count the number of typed + blank lines within the item. In the illustration (in which a little x stands for a blank line), the total is ____. Then, subtract that number from the total lines available on the page. Finally, divide the difference by 2, resulting in the number of _____ in the
(spaces/lines)

_____ margin. In centering the illustration above on
(top/left)

a FULL sheet, the top margin would have _____
(how many?)

_____.
(spaces/lines)

no

33

33 - 6 = 27

27 (by) 2 (results in) 13

14

10

lines

top

28 lines
(66 - 10) ÷ 2 = 56/2 = 28

Note. The diagonal or fraction bar (/) is also a division sign. 56/2 means 56 ÷ 2.

4-7

The steps in vertical centering are:

1. Count _____
(what?)

_____.

2. Subtract _____
(what from what?)

_____.

3. Divide the difference by ____.

4. Start to type on the _____ line.
(same/next)

1. the number of typed + blank lines within the item

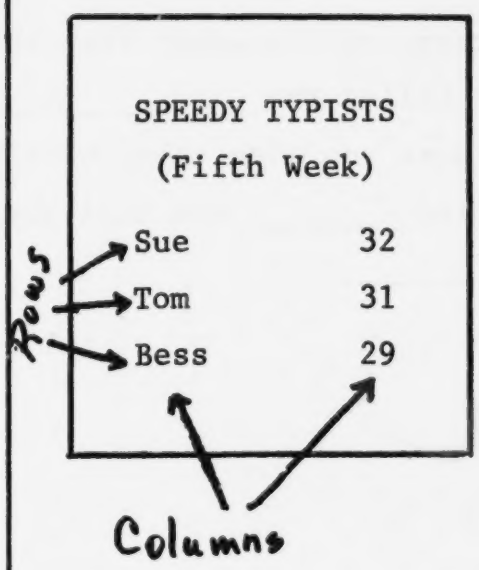
2. that number from the total available (66 on a full sheet, 33 on a ½-sheet)

(or equivalent answers to 1 and 2)

3. 2

4. next

4-8



A table contains two main sections: (1) HEADING and (2) BODY. In the body of a table, the COLUMNS go down the page and the ROWS go across the page. In the table at the left, the heading section contains ____ typed lines. The body of the table contains ____ rows and ____ columns.

4-9

2 Legibility (ease of reading) is important. Therefore,
3 unless the table is a very long one, it is common to
2 double space between the rows in the body of the table.
In double spacing, you remember, each pair of typed lines
is separated by ____ blank line(s). Refer to the table of
Frame 4-8. If the three rows of the body of the table
were to be double spaced, the body would use up a total of
____ lines.

4-10

1 The number of lines used in double spacing is twice the
5 number of typed lines, minus 1. Four typed lines in
double spacing use (2 x 4) - 1 = 8 - 1 = 7 lines. Six
double spaced lines would use ____ lines. Nine double
spaced lines would use ____ lines.

4-11

11 Perhaps you remember that the two main sections of a table
17 are called the _____ and the _____.
Perhaps you also remember that the horizontal entries are
called _____ and that the vertical entries are called
_____.

heading
body
(either order)

rows

columns

4-12

Let's use SS as the abbreviation for single space, single spaces, single spaced, and single spacing. With D for double and T for triple, DS stands for _____ space, spaces, spaced, or spacing. TS stands for _____ space, spaces, spaced, or _____. 4SS would mean four _____ spaces; 2DS would mean two _____ _____.

double
triple
spacing
single
double spaces

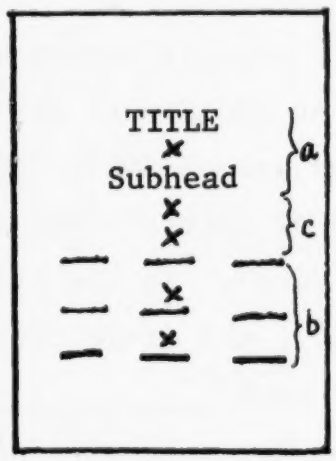
4-13

SALES RECORD
May 1969
Jones $8,000
Smith 4,000
Crane 3,250

Another name for heading is title. One speaks of a table heading or of a table _____. (Headings are also called "heads," for short.) In addition, a heading can have several parts: a MAJOR head and one or more MINOR or SUBHEADS. In the table above, the title or major head is _____. _____. The minor or subhead is _____. Notice that the rows in the body and the two heads are _____ and that a TS is used after the _____
(SS/DS/TS) (what part?)

title
SALES RECORD
May 1969
DS
minor head(ing)
[or subhead(ing)]

4-14



Examine the vertical spacing in the illustration (a) within the heading section, (b) within the body section, and (c) between the two main sections. You can see that in comparison to the blank space within the sections marked a and b, the space between the two main sections--marked c--is _____.
(less/the same/greater)

greater

4-15

The two main sections of a table are the _____ and the _____. For the sake of attractive appearance, always leave more blank space _____ (between/within) sections than _____ (between/within) sections. If the body of a table is SS, then _____ (SS/DS) after the heading. If the body of a table is DS, then _____ (SS/DS/TS) after the heading.

heading
body
(either order)
between
within
DS
TS

4-16

INVENTORY

For Branch Offices in
Dallas, Chicago

The illustration at the left shows only the heading section of a table. In it, the subhead or _____ head contains ____ lines. Because the information in the subhead belongs together, it is typed in _____ (SS/DS/TS). Also, because 1 blank line separates the major heading or _____ from the subhead, between the subhead and the body there will be at least _____ (how many?) blank lines.

minor
2
SS
title
2

4-17

Blank lines usually separate one part of a heading from another. An additional way to distinguish the parts is through the use of SOLID CAPITALS (solid caps, for short), as well as of Initial Caps (for the first letter of each important word). In the illustration in the preceding frame (4-16), the title uses _____ caps, but the minor head uses _____ caps. Notice also that <u>each</u> of the two subhead lines is _____ (a/b).

a. Blocked (lined up) at the left
b. Centered horizontally

solid
initial
b

4-18

A typed line can be made to stand out from other lines in several ways:

a. By centering it horizontally
b. By leaving a blank line above and below it
c. By typing it in SOLID CAPS
d. By underscoring (underlining)

Do not combine solid caps with underscoring. Use either one or the other, but not both. Of the following three:

a. INVENTORY
b. INVENTORY
c. Inventory

the one that is unacceptable is _____.
(a/b/c)

b

4-19

Actually, it is rarely desirable to underscore an item in a table heading. Just centering the item horizontally makes it stand out enough--especially when there is a blank line above and below it. Consider these:

Enrolment of Boys and Girls in Typing Classes

Enrolment of Boys and Girls
in Typing Classes

The better of the two above is the one at the _____.
(left/right)

Notice (from the version at the right) that the space between words _____ underscored.
(is/is not)

left
is

4-20

Which of the two titles below seems "easier on the eyes"?
Hint: Do not confuse size with ease of reading.

a. AVERAGE NUMBER OF MAJOR AND MINOR TYPEWRITING ERRORS MADE ON EACH OF FOUR KINDS OF OFFICE TYPING JOBS BY STUDENTS AT EACH OF FOUR STAGES OF TRAINING

b. Average Number of Major and Minor Typewriting Errors Made on Each of Four Kinds of Office Typing Jobs by Students at Each of Four Stages of Training

The title that seems "easier on the eyes" is _____.
(a/b)

Most people think b

4-21

Most people find a long string of solid caps difficult to read (because all letters are the same height). Therefore, avoid solid caps except when the item is quite short or to distinguish one part of a heading from another, as in:

ACME, INC. Inventory Sale **or** Acme, Inc. INVENTORY SALE

If a table title is long or if there are no subheads to be distinguished from major heads, it is better to use _____ caps.
(solid/initial)

initial

4-22

A long table title (one that requires more than 4-5 words) _____ use solid caps. If a table title
(should/should not)
uses solid caps, that title _____ be underscored.
(should/should not)

should not

should not

4-23

In a table heading, give the greatest prominence to the most important information (by using solid caps). Use initial caps for the less important parts of a heading. Of the two illustrations in Frame 4-21 (refer to it), the better one is the one at the _____.
(left/right)

right

4-24

The table whose headings were just discussed will contain information about the inventory sale, not about the firm (Acme, Inc.). That is why the version at the right (in Frame 4-21) is preferred. In it, the major head or title is in _____ caps and it appears _____ the minor head. A major head usually comes before a minor head, but can it sometimes follow the minor head? _____
(solid/initial) (before/after)

solid
after
yes

4-25

Compare these four table headings:

a. 1969 Enrolment Figures at Taft High School

b. 1969 ENROLMENT FIGURES AT TAFT HIGH SCHOOL

c.
Taft High School
1969 ENROLMENT FIGURES

d.
TAFT HIGH SCHOOL
1969 Enrolment Figures

As between a and b, the preferred one is ____.
As between c and d, the preferred one is ____.

a (because it is too long for solid caps)

c (because it uses solid caps for the more important information)

4-26

In the preceding frame, headings a and c are preferred. In choosing between a and c, select the one whose width is closer to the width of the columns in the body of th table. If the columns containing the enrolment information required about 20-25 spaces (including spaces between columns), the preferred heading would be _____.
(a/c)

[This frame makes a convenient stopping point; or you may wish to continue through 4-37.]

c (because its length is closer than the length of heading a to the 20-25 spaces in the body of the table)

4-27

In the tables used so far in this section the information in the columns is obvious from the table title or subhead. More often, it is desirable and helpful to label the information in each column by using a column heading (abbreiated CH). The heading of the second column in the table at the left shows that 134 is Kent's _____. Are CHs underscored? _____ Are they centered in relation to their columns? _____

CONTEST WINNERS

Name	Score
Kent	134
Wilson	114
Cox	93
Grant	90

score

yes

yes

4-28

Compare: Number of Bushels (in Millions) NUMBER OF BUSHELS (IN MILLIONS)

The CH at the left is correct. That CH shows that: (a) Underscoring _____ (includes/excludes) the space between words.

(b) CHs use _____ (solid/initial) caps. In a CH of more than 1 line, (c) the lines are _____ (SS/DS), and (d) you underscore _____ (each/the bottom) line across the width of _____ (each/the bottom/the longest) line in the CH.

includes

initial

SS

the bottom

the longest

4-29

1. SALE PRICE
2. Number of Males
3. Inventory No.
4. Shipping Cost
5. Cost of Goods
6. Average Temperature (in Degrees)

Of the six column headings at the left, the correct ones are Nos. _____.

2, 4

4-30

Compare the two sets of column headings below.

City	Average Annual Rainfall	Average Temperature

City	Average Annual Rainfall	Average Temperature

The set of CHs at the right, above, is correct. The rule is _____.
(a/b)

a. Start all column heads on the top line of the CH that uses the largest number of lines.

b. End all column heads on the last line of the CH that uses the largest number of lines.

b

4-31

Price	Price
$18	$18
14	
7	14
5	
3	7

Both of the columns at the left are correct. They show that no matter what spacing is used between rows (SS or DS), the CH is always followed by _____ blank line(s). That is, between the CH and the first row of the body, you _____.*
(how many?) (SS/DS)

*With 1½ spacing between rows (on a halfspace typewriter), 1½ (or double) spacing after the CH is permissible.

1

DS

4-32

1		INVENTORY SALE	
2			
3		March 1969	
4			
5			
6	Stock		
7	No.	Item	Price
9	142	Desk	$42
11	037	Easy Chair	98
13	568	Throw Rug	17
15	090	Seat Pad	4

You should be able to tell from the vertical spacing between the parts of the table (shown by the numbered line count) that column headings are considered to be part of the _____ section of a table.
(heading/body)

body (because there is more blank space above the CHs than below them)

4-33

Some typists take longer than necessary to count the number of lines in a table. Here's a time-saver when the rows in the table are to be DS. Starting with the first line of the title, count down by 1's until you reach the last CH line; thereafter, count by 2's. Look at the numbered line count at the left of the table in Frame 4-32. It shows that the last CH line is line no. ____. After that, the line count shows that you should continue to count down by _____.
(1's/2's)

7

2's

4-34

Kent High School

1969 ENROLMENT FIGURES

Department	No.
English	1,125
Business	782
History	614
Mathematics	493
Science	377

Notice the vertical spacing in the table at the left. Within sections (heading and _____), _____ is used. Between sections, _____ is used. If centered on a half-sheet, the first line of typing would be on line no. ____; if centered on a full sheet, on line no. ____.

body

DS

TS

Note. The diagonal or fraction bar (/) is also a division sign. 12/2 means 12 ÷ 2.

9 [33 - 16) ÷ 2 = 17/2 = 8; and 8 + 1 = 9]

26 [(66 - 16) ÷ 2 = 50/2 = 25; and 25 + 1 = 26]

4-35

Now a little TEST

1. The two major sections of a table are the _____ and the _____.
2. Always leave more blank space _____ than _____ the two main sections.
(between/within) (between/within)
3. Information in a table is presented across the page in _____ and down the page in _____.
4. If an item in a table is typed in solid caps, it _____ also be underscored.
(should/should not)

(Test continued in the next frame.)

1. heading
   body
   (either order)
2. between
   within
3. rows
   columns
4. should not

5. title
6. subhead
7. 11
   [(33 - 13) ÷ 2
   = 20/2 = 10;
   and 10 + 1 = 11]
8. 21
   [(66 - 25) ÷ 2
   = 41/2 = 20;
   and 20 + 1 = 21]
9. 2

10. 1

11a. DS
  b. TS
  c. DS
  d. DS

12. 26
   [(66-16) ÷ 2
   = 50/2 = 25;
   and 25 + 1 = 26]

4-36

TEST continued

5. Another name for major head is _____.
6. Another name for minor head is _____.
7. A table containing 13 (typed + blank) lines, if typed on a half-sheet, would begin on line no. ____.
8. A table containing 25 (typed + blank) lines, if typed on a full sheet, would begin on line no. ____.
9. In the example at the right the major head is the one on line _____.
   (1/2)

Green & Co.
HOLIDAY SALE PRICES

(Test continued in the next frame.)

4-37

TEST continued

1	Office Assignments	
2	May 1, 1969	
3	Department	Room
4	Executive	204
5	Sales	212
6	Purchasing	206
7	Accounting	219
8	Shipping	140

In the table at the left:

10. You could use either solid caps or initial caps + underscoring for line no. ____.
11. What vertical spacing (SS, DS, or TS) should be used--
    a. Between lines 1 and 2? ___
    b. Between lines 2 and 3? ___
    c. Between lines 3 and 4? ___
    d. Within lines 4-8? ___
12. If typed on a full sheet with correct vertical spacing, the title would start on line ___.

When you complete this section, you should know:

1. How to center horizontally--by backspacing--tables without column headings.
2. How to check your centering before you type.
3. How to find the starting point for each column.
4. How to type tables so that they will be attractively centered on the page.

5-0

Section 5

Tables without Column Headings

(Backspace Method)

40 Frames

5-1

An attractively typed table is one that is centered horizontally as well as _____. You know that a horizontally centered item is one whose _____ margins are equal.

A table displays information in rows and columns. Perhaps you remember that the columns go _____ the page, (across/down)

while the rows go _____ the page. (across/down)

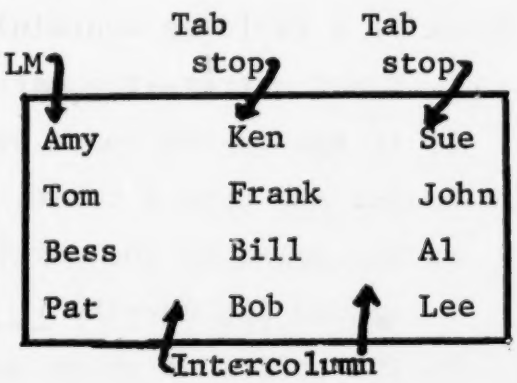
vertically

side
(or left and right)

down

across

5-2



Examine the table at the left. It has ____ rows and ____ columns. The first column begins at the LM (_____ margin). At the beginning of each column after that, you set a _____.

Just as you jump 5 spaces to the beginning of a paragraph by tabulating, you also jump from column to column by _____ across the inter _ _ _ _ _ _ space--the space between columns.

4
3
left
tab stop
tabulating
(inter)column

5-3

Massachusetts	Mass.	MA
Michigan	Mich.	MI
Minnesota	Minn.	MN
Mississippi	Miss.	MS
Missouri	Mo.	MO

You type a table across the rows, NOT down the _____. After you type Massachusetts in the table above, the next thing you type is _____. After you type Minn., the next thing you type is _____.

columns
Mass.
MN

5-4

The columns in a table should not be so close together that they look jammed; nor should they be so far apart as to cause difficulty in reading from column to _____. Often, about a ½ inch between columns—(how many?) ____ pica or ____ elite spaces--will be about right. Of course, in a table with many or wide columns, the IC (intercolumn) space might have to be _____ than a half-inch. In
(more/less)
a table with just a few or very narrow columns, you could use _____ than a half-inch of _____ space.
(more/less) (abbreviation)

column
5
6
less
more
IC

5-5

Think of a table as containing two elements:

1. Typed matter--the material in the columns.
2. IC space--the space between _____.

To center and type a table, you must locate:

a. The point on the carriage scale at which the first column begins--the _____ margin, and
b. The points at which each later column should begin--so that you can set a _____ for each of the later columns.

columns
left
tab stop

5-6

Orchestra	Monday	Mr. Henderson
Economics Club	Tuesday	Miss Cantor
Glee Club	Wednesday	Mr. Stillman

To center a table horizontally, you first have to determine how many spaces wide it is. To do that, you first identify the longest item in each column. The sum of the spaces in the longest items + all IC space is the total width of the table.

The total width of the table above is: its IC space + the spaces in Economics Club + the spaces in _____ + the spaces in _____.

Wednesday
Mr. Henderson

5-7

Tables can be centered horizontally in any of three ways: (a) by backspacing, (b) by arithmetic, or (c) by a combination of backspacing and arithmetic. You already know how to center horizontally by backspacing. You start at the center point (at ____ on a pica machine, at ____ on an elite typewriter). Then you backspace _____ for each ____ letters, characters, and spaces in the line.

42
51
once
2

5-8

The fastest and safest way to center the body of a table by backspacing is:

1. First, backspace for the typed matter across all columns.
2. Next, backspace for all IC spaces.

To center the typed matter, first identify the longest item in each column. Consider:

Maine	New England	Augusta
Ohio	Midwest	Columbus
Washington	Far West	Olympia

In column 1, the longest item is _____; in column 2, _____; in column 3, _____.

Washington
New England
Columbus

5-9

Be especially careful when identifying the longest item in longhand materials. The item that stretches the longest may not have the most spaces. Check by counting.

President Johnson
Secretary Williams
Comptroller Sanders

In column 1, the longest item is _____; it has ____ spaces. In column 2, the longest item is _____; it has ____ spaces.

Comptroller
11
Williams
8

5-10

Jim Al Frank
James Fred Andy
Tom Van Bob
5 3 4 3 5

Consider the body of a table to have a "longest line"--made up of the sum of the longest items in each column + all IC space.

In the table above, the longest line consists of the underscored typed matter (James + Fred + Frank) plus the dotted IC space. As shown above, the typed matter has 5 + ____ + 5 = ____ spaces, and the ICs contain 3 + ____ = ____ spaces, for a total in the "longest line" of ____ spaces.

Temporarily ignoring IC space, the longest line in Frame 5-8 consists of: Washington + New England + Columbus. In Frame 5-9 (refer to it), the typed matter in the longest line consists of _____ + _____.

4
14
(3 +) 3 = 6
20
Comptroller
Williams

5-11

Your first step is to determine the starting point for the first column, so that you can set your _____ margin. Consider the longest line of the table of Frame 5-8 (not counting IC space) as:

WashingtonNew EnglandColumbus

Starting at midpoint (42 or 51), backspace "1 for 2"--

Wa sh in gt on Ne w-space En gl an dC ol um bu

Notice that you do not backspace for the final leftover letter (the s of Columbus) and that the d of England is paired with the ___ of the word _____, because intercolumn space is, at this stage, _____.
(included/ignored)

left
C
Columbus
ignored

5-12

COUNT ON YOUR FINGERS AS YOU BACKSPACE MENTALLY for ComptrollerWilliams (Frame 5-9). The sixth PAIR of letters in backspacing for ComptrollerWilliams consists of the letters _____. The last pair consists of the letters ____. There will be a total of _____ backspaces, with
(how many?)

_____ leftover letter(s).
(one/no)

rW
am
9
one

5-13

In backspacing for ComptrollerWilliams in elite type, you would backspace 9 times from 51, ending at 51 - 9 = ____. Having backspaced for the typed matter, you must next backspace for the IC. Assuming 8 spaces between the two columns, and backspacing 1 for 2, you would backspace half of 8, or ____ more times. That would bring you to ____ on the scale. In pica type, you would start to backspace from ____, and would backspace 9 times for the typed matter + ____ times for the IC. Your backspacing would end at ____.

42
4
38
42
4
29 (42 - 13)

5-14

Suppose you wanted to leave 5, instead of 8, spaces between columns in the preceding example. Since you drop a leftover letter or space, in centering 5 IC spaces you would ordinarily backspace ____ times. However, there was 1 leftover letter after backspacing for the typed matter (the final s of Williams). That s--and the fifth space of the 5 IC spaces--make another pair. Therefore, 5 IC spaces + the leftover s make a total of 6 spaces to be centered. After backspacing for the typed matter, you must therefore backspace ____ more times.

2

3

5-15

A 2-column table has 1 intercolumn. A 5-column table has 4 ICs. A 7-column table has ____ ICs. The number of ICs is always _____ the number of columns. To get total IC space, multiply the width of the IC by the number of _____. A 4-column table with a 6-space IC uses 6 x _____ = ____ IC spaces. To center those spaces, you would backspace half that number, or ____, times.

(one less than/equal to/one more than)

(columns/intercolumns)

(3/4)

6

one less than

intercolumns

(6 x) 3 = 18

9 (½ of 18)

5-16

When you backspace first for the typed matter and next for all IC space, you must be sure not to throw away 2 leftover spaces (1 in the typed matter and 1 in the intercolumns). Assume a table with three 5-space ICs in which there was a leftover space after backspacing for the typed matter. The leftover space plus the total of _____ IC spaces make a total of ____ spaces to be centered by backspacing. You would therefore backspace ____ more times.

15 (3 x 5)

16

8 (½ of 16)

5-17

Assume a table with a leftover space in the typed matter and two 7-space ICs. To center the total of 14 IC spaces, you would backspace ____ times. If you were to add the leftover space, making 15, you would still backspace ____ times. In other words, when the IC total is an even number, the leftover space from the typed matter should be _____--because the number of backspaces needed for centering _____ be changed.

(added/dropped)

(would/would not)

5-18

Assume a leftover space in the typed matter and three 7-space ICs. Because the IC total (3 x 7) is an _____ (odd/even) number, you _____ (should/should not) add the leftover space. There will be _____ (21/22) spaces to be centered, requiring _____ (10/11) backspaces.

7
7
dropped
would not

5-19

Consider a 5-column table in which each IC has 6 spaces. Assume that after backspacing for the typed matter (but not for the IC space), your carriage was at 32 on the scale. You could continue to backspace for the IC spaces (which total 6 x ____ = ____), using ____ backspaces. But if your arithmetic is faster than your backspacing, instead of backspacing ____ more times, just subtract ____ from ____ and move your carriage directly to ____ on the scale. Since the first column begins at that point, you set the _____ margin there.

odd
should
22
11

5-20

A table's "longest line" is the sum of the spaces in the longest item in each column + all IC space. You backspace for that longest line in order to locate the _____ margin. Consider the 3-column table sketched below:

10 5 25 5 15

In it, the typed matter totals 10 + 25 + 15 = ____ spaces, and the ICs total ____ spaces, resulting in a "longest line" of ____ spaces. To center it, you would backspace ____ times. In elite type, your backspacing would end at ____ on the scale, and you would set your _____ at that point.

(6 x) 4 = 24
12 (½ of 24)
12
12 (from) 32
20
left

left

50

10

60 (50 + 10)

30 (½ of 60)

21 (51 - 30)

left margin

5-21

The steps in the backspace method are:

1. From the center point, backspace 1 for 2 for the typed matter.
2. Then backspace for half the IC total; OR subtract half the IC total from the point on the scale at which the backspacing for the typed matter ends.

Assume a table in which backspacing for the typed matter ends at 30 on the scale. If there were three 6-space ICs, backspace ____ more times, or subtract ____ from ____ and move your carriage directly to ____ on the scale.

Note. The diagonal or fraction bar is also a division sign. 18/2 means 18 ÷ 2.

9 [½ of (3 x 6) = 18/2 = 9]

9 (from) 30

21

5-22

To locate the left margin in a table by the backspace method, backspace (1 for 2)--first for the _____ _____ and then for the _____. OR, after Step 1, subtract _____ (what?) from _____ (what?) _____.

typed matter

total IC space

half the IC space (from)

the point on the scale at which the backspacing for the typed matter ends

(or equivalent to the above answers)

5-23

Errors in locating the LM could result from:

1. Poor backspacing technique (not depressing the key fully or punching it too hard).
2. Incorrectly identifying the longest item in each column.
3. Faulty spelling by 2's during backspacing.
4. Wrong arithmetic (in multiplying IC space by number of ICs or in forgetting leftover spaces).
5. Confusion about the steps in the backspace process.

If reason No. 5 applies to you now, you should _____. (a/b)

a. Just go on and hope for the best.
b. Review Frames 1 to 22 in this section.

b

5-24

Now a little TEST, based on the table below.

John B. Cook	460 Bullitt Drive	San Antonio
Esther Henson	86 Lake Blvd.	Wilmington
Alice Stevenson	14 Seventh Ave.	New York

1. The longest item in column 1 has ____ spaces; in column 2, ____ spaces; in column 3, ____ spaces.
2. Count on your fingers and backspace mentally to determine that, in backspacing for the typed matter, the eighth backspace would be for the letters ____. At the end, would there be a leftover space? _____

Note. If a typewriter is available, continue with the next three frames. If not, wait until you are at a typewriter.

1. 15 (Alice Stevenson)
   17 (460 Bullitt Drive)
   11 (San Antonio)
2. n4
   yes

5-25

Before you do any typing--in fact, before you start to backspace to find the LM of a table--be sure to set your margins to the extreme left and right of the carriage and to clear all tab stops. Otherwise, earlier machine settings will get in the way of your present work. Your first steps are:

1. Move margins _____ .
   (where?)
2. Clear _____ .
   (what?)

1. to extreme left and right of the carriage
2. all tab stops

5-26

At a (home, school, or office) typewriter, backspace to find the LM for each of the tables below. Remember to backspace first for all typed matter, then for all IC space. One by one, check the end point of your backspacing against the model answers. The space in each IC is at the right.

(1)	California Indiana		Sacramento Indianapolis		9
(2)	Maine Washington	New England Far West	Augusta Olympia		6
(3)	Missouri Montana	Mo. Mont.	MO MN	4,319,813 674,767	7

	Pica	Elite
(1)	27	36
(2)	22	31
(3)	20	29

	Pica	Elite
(4)	16	25
(5)	18	27
(6)	23	32
(7)	19	28

(Did you remember to add the leftover space to the IC total?)

4

3

Sacramento

2,178,611

5-27

See the instructions for Frame 5-26.

(4)	Typing Shorthand	Italian French	Algebra Geometry	History Civics	7
(5)	Kennedy Johnson Nixon	Massachusetts Texas California	Democrat Democrat Republican	1961 1963 1969	5
(6)	Independence Day Veterans Day		July 4 November 11		11
(7)	1903 1953	Marie Curie Winston Churchill		Physics Literature	8

[Stop here, or continue through 5-32 or 5-40.]

5-28

Now we turn to the actual typing of tables whose LMs have been located by the backspace method. Consider:

California	Sacramento	15,707,204
Ohio	Columbus	9,706,397
Kansas	Topeka	2,178,611
Delaware	Dover	446,292

The table above has ____ rows and ____ colums. In typing it, you work ACROSS THE ROWS, not down the columns. After you type California, the next thing you type is _____ (Ohio/Sacramento)

_____. After you type Topeka, the next thing you type is _____.

5-29

Assume pica type and a 6-space intercolumn in the table of Frame 5-28. If that table were to be centered horizontally by backspacing, the backspacing would end at 21 on the carriage scale. The point at which the backspacing ends is the point at which the first column begins. Therefore, you would set your _____ margin at ____ on the carriage scale.

left
21

5-30

You work across the rows by tabulating from column to column. Therefore, after setting your LM and typing California (see 5-28), you want to find the point at which the second column begins--so that you can set a tab stop at that point. With a 6-space IC (intercolumn), after you type California in column ____, just space ____ times and _____ for column ____.

1
6
set a tab stop
2

5-31

(Refer to the table of Frame 5-28.)
Having set a tab stop for column 2, you next type _____. Then space for the IC and _____ _____ for column ____. Then type _____.

Sacramento
set a tab stop
3
15,707,204

5-32

With row 1 complete and all tab stops set, check your line space regulator. If you want a blank line separating the rows of the table (as is done in most tables that are not very long), set your regulator for _____ spacing. Then just throw your _____ and type across each _____ in turn, tabulating from the end of one _____ to the beginning of the next one. For example, when you finish typing Ohio in the first column of row 2 (see Frame 5-28), you _____.
(a/b)

a. Space for the IC
b. Tabulate to column 2

[Stop here, or continue through 5-41.]

double
carriage
row
column
b

5-33

In the table of Frame 5-28 the longest item in each column is in the first row. That rarely happens in real life. More often, the longest items are in various rows, as in:

Georgia	South	Atlanta
Washington	Far West	Olympia
Maine	New England	Augusta
Ohio	Midwest	Columbus

The longest item in column 1 is in row ____. In column 2, the longest item is in row ____.*

*For the purpose of planning and typing tables, it does not matter in what row the longest item in the last column is located.

2
3

5-34

For the beginner at table typing, the safe way to work is to set all tab stops before any typing is done. In the table of the preceding frame (refer to it), you would set tab stops for columns ____ and ____ _____ you type
(before/after)
Georgia.

2
3
before

5-35

For the table below, pica LM = 20 and each IC = 8 spaces.

Georgia	South	Atlanta
Washington	Far West	Olympia
Maine	New England	Augusta
Ohio	Midwest	Columbus

The first tab stop, for column ____, will be set 8 spaces after the longest item in column 1, which is _____.
Here's how to set tab stops before typing: From LM at 20, spell through the longest item in column 1 letter by letter as you tap the space bar once for EACH letter. That will require ____ space bar strokes.

2
Washington
10

5-36

Having tapped your space bar 10 times, once for each letter in Washington, another 8 taps (for the IC) will bring you to the beginning of column ____. Set a _____ at that point.

Notice (preceding frame) that the longest item in column 2 is _____. Again, space your way through it by tapping your space bar ____ times. Add another 8 taps for the IC and _____ for column ____.

2
tab stop
New England
11
set a tab stop
3

5-37

(Refer to Frame 5-35.)
So far, you have set tab stops for columns 2 and 3, but have not typed any of the items in the table. Now you are ready to type. To type the first-row items that you had previously spaced through (while spelling letter by letter): WITHOUT SPACING DOWN, push your carriage back to the _____ margin, type _____; then _____ (space/tabulate) to column ____ and type _____; then _____ to column ____ and type _____.

left
Georgia
tabulate
2
South
tabulate
3
Atlanta

5-38

With the items in row 1 typed, and all tab stops set, if you want a blank line between rows, set your line space regulator for _____ spacing. Then just throw your _____ and type across each _____ in turn, tabulating from the end of one _____ to the beginning of the next one.

double
carriage
row
column

Now a little TEST (assume LM properly set and that you now want to set tab stops). 5-39

Ohio	Columbus	Cleveland
Delaware	Dover	Wilmington
Kansas	Topeka	Kansas City

1. First, _____ _____.
   (type/space through) (what item?)
2. Then, after spacing for the IC, _____ for column ____. Next, _____ _____.
   (type/space through) (what item?)
3. When you first reach column 3 (after spacing for the IC), _____. Then, _____ the carriage to type _____.
   (throw/push back)

1. space through Delaware
2. set a tab stop (for) column 2
   space through Columbus
3. set a tab stop
   push back
   Ohio

TEST continued (refer to Frame 5-39). 5-40

4. With an IC of 10 spaces, the "longest line" (all typing plus all IC spaces) contains ____ spaces.
   a. To center the longest line in elite type, you would backspace ____ times. LM would be at ____.
   b. In pica type, with IC = 7, to center the longest line you would backspace ____ times, resulting in LM at ____.

4. 47 (27 typing + 20 IC)
   (Longest items are: Delaware, Columbus, Kansas City--using 8, 8, and 11 spaces.)

4a. 23 (½ of 47)
   28 (51 - 23)

4b. 20 [½ of (27 typing + 14 IC)]
   22 (42 - 20)

When you complete this section, you should know:

1. How to center horizontally--by backspacing--tables with column headings.
2. How to center each column heading in relation to its column.
3. How to type tables with column headings by using forward and backspace methods.

6-0

Section 6

Tables with Column Headings

(Backspace Method)

26 Frames

6-1

Item	Special Price
Ladies' gloves	$ 6
Men's hats	14

To locate the LM (left margin) of a table, you know that you backspace 1 for 2 for the longest item in each column + IC space. In identifying the longest item, consider the CH (column heading) to be part of the column. For example, the longest item in column 2, above, is its CH, _____ _____, containing ____ spaces. With 14 spaces in the longest item in column 1, the total for the typed matter is ____ spaces.

Special Price

13

27 (14 + 13)

6-2

In the table of the preceding frame, the longest "typed matter" is: Ladies' glovesSpecial Price. Backspace it as:

La di es '-space gl ov es Sp ec ia l-space Pr ic

with _____ (one/no) leftover letter(s). For it, you would backspace (count the pairs above) ____ times. For an IC (intercolumn) of 7 spaces, you would backspace (was there a leftover letter?) another ____ times, for a total of ____ backspaces. In pica type, your LM (left margin) would be at ____ on the carriage scale.

one
13
4 [½ of (7 + 1)]
17
25 (42 - 17)

6-3

State — Population — Capital City

North Dakota — 632,446 — Bismarck
Delaware — 446,292 — Dover

In column 1, the longest item has ____ spaces; in column 2, ____ spaces; in column 3, ____ spaces--for a total in the typed matter of ____ spaces, requiring ____ backspaces to center it. With IC = 8 (and 2 ICs), you would backspace another ____ times, for a total of ____ backspaces. In elite type, your LM (left margin) would be at ____ on the carriage scale.

12 (North Dakota)
10 (Population)
12 (Capital City)
34
17 (½ of 34)
8 (½ of 16)
25
26 (51 - 25)

6-4

You have surely noticed that column headings are centered in relation to their columns, as in:

Continent	Area (in Square Miles)
Africa	11,685,000
North America	9,420,000

A shorter heading is centered _____ (under/over) a longer column.

A shorter column is centered _____ (under/over) a longer heading.

over
under

6-5

Inventory No.		Item
264	← IC →	Dining table
302		Side Chair

The orderly way to type a table is: first, all the column headings; then, the rows below--setting tab stops as you get to them. After you type (and underscore) the heading of column 1 (+ 10 spaces for the IC), you have reached the beginning of column 2--you are at the point on the scale at which _____ (Item/Dining table) will begin. Should you now set a tab stop? _____

Dining table
yes

6-6

Inventory No. | Item
64 | Dining table
302 | side chair

You have typed Inventory No., spaced 10 times for the IC, and set a tab stop for column 2. Horizontally, you are at the D of Dining table; but vertically you are still on the heading line above. Since you should type all CHs before you type the rows beneath, you now want to locate the point at which _____ should be typed. You have to find the middle of column 2, so that from that point you can center _____ by backspacing 1 for 2.

Item (or the CH)
Item (or the CH)

6-7

Item
Dining table

To center a short line over (or under) a longer line, you first have to find the middle of the longer line. At the left, above, the longer line is _____. To find its middle, you start at its beginning and forward space 1 for 2 (tap your space bar once for each two typewriter strokes in it). Since you have just set a tab stop at the beginning of _____, to find its middle tap your space bar ____ time(s).

Note. The fast way to fill in blanks like the last one is to count on your fingers as you spell mentally by 2's.

Dining table
Dining table
6

6-8

Inventory No. | Item
64 | Dining table
302 | side chair

You have forward spaced 6 times into the middle of Dining table. Now you want to center _____ above it. Since that CH has _____ (how many?) letters, you find its starting point by backspacing 1 for 2 _____ (how many?) time(s). Now type that CH. So far, you have typed the two CHs and set a tab stop for column 2. Now you return to column 1 to center its _____ (heading/column) _____ (over/under) its _____ (heading/column).

Item

4

2

Column under (its) heading

6-9

Inventory No.

264
302
419
578
617

At the left is just the beginning of a much longer first column in a table. The CH is typed once--but you will be returning the carriage many times to type the items beneath the CH.

You have typed the long CH and want to find the starting point for the shorter items below. First, find the middle of the longer item by forward spacing (1 for 2) ____ times. Then, to find the starting point for 264, backspace ____ time(s). NOW: based on the comments at the beginning of this frame, you should _____.
(a/b)

a. Set a tab stop
b. Reset the LM

6

1

b

6-10

Some machine settings are temporary. NEVER KEEP a margin or a tab stop at a point at which only one item begins. If, in column 1, the CH is longest, after typing it--re _ _ _ the _____. The same principle applies to column tab stops. In the column at the right the $ is typed ____ time(s). The tab stop should therefore be set at the _____ of $14--under the
($/1/4)
_____ of Price. If so, when you first tabulate
(r/i)
to that column, you must remember to backspace ____ time(s) to type the ____.

Price
$14
9
12
35
6

(re)set (the) left margin

1

1

i

1

$

6-11

REMEMBER: To find the starting point for a line that is to be centered in relation to another line, forward space (1 for 2) into the middle of the longer line; then backspace (1 for 2) for the shorter line.

Model	Sale Price
Evergreen	$23.95
Clanchester	18.50

1. To center Model, first find the middle of _____ by forward spacing ____ times; then backspace ____ times.
2. To locate the $ in column 2, forward space ____ times; then backspace ____ times.
3. Set a tab stop for column 2 at the _____ of $23.95
($/2)

1. Clanchester
   5
   2
2. 5
   3
3. 2
   (because the $ will be typed only once)

6-12

The orderly way to type is: first, all the CHs; then, the rows beneath. In the preceding frame (refer to it), with LM set and Model centered and typed, you must next find the starting point for _____. Since
(Sale Price/$23.95)
you want to stay on the same line, _____ the
(throw/push back)
carriage to LM and FORWARD SPACE 1 for 1 (without typing the word) through the longest item in column 1, which is _____, + the IC space. Then type_____.

Sale Price
push back
Clanchester
Sale Price

6-13

To continue the work in an orderly way: after typing the two CHs of the table of Frame 6-11 (refer to it), you need to set a tab stop for column ____. You locate the $ of $23.95 as described in sentence No. 2 of Frame 6-11--and you set a tab stop _____.
(there/1 space to the right)

[Stop here, or continue through 6-19 or 6-26.]

2

1 space to the right
(because the $ will be typed only once)

6-14

What if the CH is the longest item in column 1? Your first step is still to find the LM by backspacing for the longest item in each column + the IC space.

Stock No.	Item
603	Side chair
417	Sofa

Find the LM by backspacing 1 for 2 for Stock No. + _____ _____ + IC. Then type _____. Now space for the IC and _____.
(a/b)

a. Type Item
b. Set a tab stop for Side chair

Side chair
Stock No.
b

6-15

In the table of 6-14 (refer to it), you have typed the CH for column 1 and have set a tab stop for Side chair. Next, you center Item by forward spacing _____ into
(1 for 1/1 for 2)
the middle of the longest item in column 2 (which is _____) a total of ____ time(s). Then, to find the starting point for Item, you backspace ____ time(s). Type that CH. Then, return to LM and find the starting point for 603 first by forward spacing ____ time(s) and then by backspacing ____time(s). At that point, _____.
(a/b)

a. Set a tab stop
b. Reset the LM

1 for 2
Side chair
5
2
4
1
b

6-16

In table typing, you work from left to right, doing first what comes first. In the first column of a table, if the CH is the longest item, you _____.
(a/b)

a. Type it, starting at LM
b. Center it before typing

When the CH in column 1 is shorter than the items beneath it, you do _____ (above).
(a/b)

a
b

6-17

Now consider columns after the first one.

State	Region	Capital City
Maine	New England	Olympia
Washington	Far West	Augusta

You do first, what comes first. Therefore, you set a tab stop for New England _____ you type Region. You
(before/after)
would set a tab stop for Olympia _____ you type
(before/after)
Capital City.

before

after

6-18

Study carefully the order of the steps in typing the table of the preceding frame.

1. Backspace 1 for 2 (from 42 or 51) for: Washington + New England + Capital City + IC space.
2. Set LM
3. From LM, forward space 1 for 2 into the middle of Washington; backspace 1 for 2 to center State. Type State.
4. Push back to LM and forward space 1 for 1 through Washington + IC space.
5. Set tab stop for New England.
6. Forward space 1 for 2 into the middle of New England. Backspace 1 for 2 to center and then type Region.

(continued in the next frame)

6-19

Continuing the steps in centering and typing the table of Frame 6-17:

7. Push carriage back to LM; tabulate to New England; forward space 1 for 1 through New England + 1C space; type Capital City.
8. Push carriage back to the first C of Capital City and forward space 1 for 2 into its middle.
9. Backspace 1 for 2 to center Olympia; set tab stop.
10. Double space below the CH line; set regulator for desired spacing; type the remaining items, tabulating from the end of one column to the beginning of the next one.

NOW YOU CHOOSE!

These steps seem ____.
a. A pain in the neck.
b. A lot of fun.

[This frame makes a convenient stopping point.]

Don't worry. See Frame 7-1 of this program and Section 8. Also, you'll next learn some shortcuts for typing column headings.

6-20

3 4 3
Name
Huntington
10

The centering processes described so far involve much fussy spacing. Often, simple inspection and counting are faster. Just a glance at the example at the left shows that it consists of centering _____ letters over _____
(how many?) (how many?)
letters. Obviously, the difference of ____ letters should be divided equally, with ____ blank space(s) on each side of the shorter item. With the carriage at the H of Huntington, just space _____ _____ time(s) and type
(forward/back) (how many?)
Name.

4
10
6
3
forward
3

6-21

Model
Clanchester

Spaces in Clanchester minus spaces in Model = ____ - ____ = ____. Divide that difference in half, leaving ____ spaces on each side of Model. That is, start to type Model over the _____ in Clanchester. If this were column 1 of (what letter?)
a table, just space in ____ times from LM to type Model. If this were a later column, space ____ times from the tab stop for _____.

11 - 5 = 6
3
n (or 4th letter)
3
3
Clanchester

6-22

The same process applies to: Capital City
Augusta
Olympia

The spaces in Capital City minus the spaces in Augusta = ____ - ____ = ____. Since the difference is an odd number, in dividing it, put the "larger half" of it at the left of Augusta. Start Augusta (that is, set a tab stop for Augusta) under the _____ of _____ in the CH.
(what letter?) (what word?)

12 - 7 = 5
i (or 4th letter) of
Capital

6-23

The simple counting and subtraction described in the preceding three frames is much faster and simpler than fussy forward and backspacing--when the items to be counted are not too long. But in a wide column with a long CH, some typists find spacing methods faster--especially when the materials are in longhand. (About half the materials from which employed typists work is in longhand.)

Would you prefer to count or to forward-and-backspace for the following (check one): count ____; space ____.

Quotas of More than $100,000
Northwest Bergen County
Metropolitan New York

Wait until you have some experience with both methods before you choose.

6-24

Finally a little TEST.

Department	Discount	Store
Men's Clothing	10%	Downtown
Home Furnishings	15%	Midtown
Cosmetics	20%	Suburbanite

1. To center Department, forward space ____ times into the middle of _____; then backspace ____ times.
2. In column 2, the tab stop will be set at the _____. (a/b)

   a. D of Discount
   b. 1 of 10%

1. 8

   Home Furnishings

   5

2. b

6-25

TEST continued (refer to 6-24).

3. By counting (not spacing) in column 3, the heading will start over the _____ (what letter?) of _____ (what item?).
4. Which comes first?

   a. Typing Store
   b. Setting a tab stop at the D of Downtown

5. After typing Department, how do you locate the starting point for the D of Discount?

_____

_____

_____

3. 4th letter
   (or second u)
   Suburbanite
4. b
5. Push back to LM; forward space 1 for 1 through Home Furnishings + IC spaces

   (or equivalent wording)

6-26

Just read this frame; no answers are required.

The simple counting and subtraction described in frames 20 through 22 in this section are often faster than fussy forward and backspacing. For that reason, many typists use a mixture of backspacing and arithmetic in typing tables. They use spacing methods to locate the LM and the starting point for the longest item in each column. Then they switch to counting methods to center a heading over a column or a column under a heading. Practice the various methods and select the ones that seem best for you.

When you complete this section, you should know:

1. How to prepare a plan for tables without column headings that shows the starting point for each column.
2. How to check the correctness of your plan before you type.
3. How to type from the plan.

7-0

Section 7

Tables without Column Headings

(Arithmetic Method)

22 Frames

7-1

The backspace method of determining the horizontal layout of tables works nicely with simple tables--especially for persons who prefer to avoid arithmetic. If arithmetic is no problem, then arithmetic methods of planning tables are just as good. For difficult tables, arithmetic is better--because in such tables backspace methods are slow, with many possibilities for mistakes.

By backspace methods you can easily type _____ tables. Arithmetic methods apply to _____ tables.

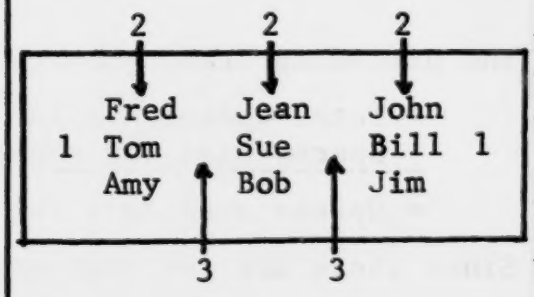
(all/simple)

(simple/difficult/all)

simple

all

7-2



Horizontally, the body of a table has three elements or parts. As numbered at the left, they are: (1) side margins (left and right), (2) typed matter, and (3) IC (intercolumn) space--the blank space between columns.

If the planning of a table is correct, then: side margins + typed matter + IC (intercolumn) space should equal total spaces across the page.

On 8½" x 11" paper or stationery, in pica type there are ____ spaces across the page; in elite type, ____ spaces.

If some elite table uses 50 spaces for the typed matter + ICs, there will be ____ spaces left for the _____.

85

102

52 (102 - 50)

side margins
(or left and right margins)

7-3

To plan a table means to locate the LM (left margin) and the starting point for each column. To do that, you must first determine the number of spaces needed for the typed matter. So: identify the longest item in each column, count its spaces, and add across the columns. Consider:

California	Sacramento	15,707,204
North Dakota	Bismarck	632,446
Ohio	Columbus	9,706,397

The longest item in column 1 is _____; it has ____ spaces. In column 2, the longest item has ____ spaces; and in column 3, ____ spaces. The total is ____ spaces.

North Dakota

12
10
12
32

7-4

To plan tables by arithmetic, you use a horizontal line to represent each column, and you show the number of spaces in each column and between columns, like this:

20 6 10 6 10

The sketch shows that typed matter = 20+10+10 = ____

ICs (intercolumns) = 2 x 6 = ____

Total = ____

In elite type, the space remaining for side margins would be 102 - ____ = ____.

40
12
52

(102 -) 52 = 50

7-5

The preceding frame shows that:

Total spaces available on the page
- Spaces used for typed matter and ICs (intercolumns)

= Spaces available for side margins

Since there are two side margins, just divide the marginal space by ____ to determine the point on the carriage scale at which to set the _____ margin. Example: 40 spaces of typed matter + three 5-space ICs total ____ spaces. In pica type, the space remaining for the two side margins = ____ spaces, and the LM would be set at ____.

2
left
55
30 (85 - 55)
15 (½ of 30)

7-6

If an odd number of spaces remains for margins, so that they cannot be identical, it is customary to put the extra space in the left margin. With 31 spaces for side margins, put 16 in the left margin and 15 in the right margin. With 41 spaces for side margins, set the LM (left margin) at ____; with 49 spaces for margins, set the LM at ____. The "larger half" of 23 is 12. The "larger half" of 33 is ____. If an odd number of spaces remains for the two side margins, put the larger half at the _____.
(left/right)

21
25
17
left

7-7

A 2-column table has 1 IC (intercolumn). A 5-column table has 4 ICs. A 3-column table has ____ ICs. The number of ICs is always _____ the number
(1 more than/equal to/1 less than)
of columns. Usually (but not always), all ICs in a particular table are the same width. With four 8-space ICs, you do not have to add 8 + 8 + 8 + 8. Just multiply ____ x ____ to get a total of ____ IC spaces.

2
1 less than
4 x 8 (or 8 x 4)
32

7-8

Remember that:

Total spaces across the page - total table width (typed matter + ICs) = spaces available for side margins.

Assume columns of 8, 17, and 11 spaces, with IC = 7 spaces.

+ Typed matter = 8 + 17 + 11 = ____
Intercolumns = 2 x 7 = ____
= Total table width = ____

(Fill in the three missing numbers.)

In pica type, spaces for side margins = 85 - ____ = ____, and LM (left margin) would be set at ____. In elite type, side margin space = 102 - ____ = ____, and LM would be set at ____.

36
14
50

(85 -) 50 = 35

18 (larger half of 35)

(102 -) 50 = 52

26 (½ of 52)

7-9

At the right of the plan below is a convenient form for the arithmetic of determining the LM. Use exactly that form in planning your own tables.

Elite ____20____ 7 ____20____ 7 ____9____ = 49 = 14/63

102 - 63 = 2)39 = 20 - 19

The sketch shows the sum of the typed matter to be ____ and the IC sum to be ____-- for a total table width of ____ spaces. That total is subtracted from total elite spaces across the page, which is ____, and the difference is divided by ____, resulting in LM = ____.

49
14
63

102

2

20 (larger half of 39)

7-10

Use scrap paper for the arithmetic and fill in the blanks. When an odd number of spaces remains for side margins, put the "larger half" in the _____ margin.
(left/right)

	Column Spaces	In Each IC	Left Margin Pica	Left Margin Elite
Example	8-12-6-20	5	12	21
a.	18-23	9	___	___
b.	6-9-13-7-10-4	3	___	___
c.	7-19-12	7	___	___
d.	18-6-11-4	6	___	___

left

Note. The diagonal or fraction bar (/) is also a division sign. 12/2 means 12 ÷ 2.

7-11

With arithmetic planning, it is easy to check your work before typing. Once you have figured out LM and RM, just sum across (margins + typed matter + ICs). If you do not get a total of ____ (pica) or ____ (elite), you know you have made an arithmetic error and can recheck. Fill in the

	LM				RM	Total
Pica	19	____16____	9	____23____	18 =	____
Elite	25	____7____ 7	____17____	7 ____12____	24 =	____

There is a mistake in the _____ example. The margins should be ____ (left) and ____ (right).
(pica/elite)

[This frame makes a convenient stopping point.]

[85-(46+15)]/2=12 pica
[102-(46+15)]/2=21 elite

a [85-(41+9)]/2=18 pica
[102-(41+9)]/2=26 elite

b [85-(49+15)]/2=11 pica
[102-(49+15)]/2=19 elite

c [85-(38+14)]/2=17 pica
[102-(38+14)]/2=25 elite

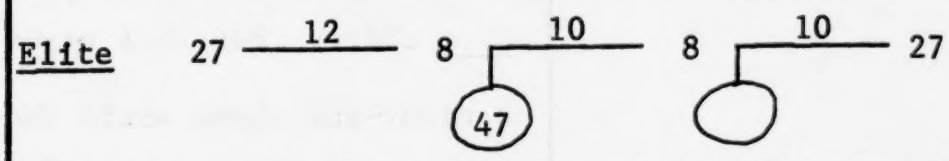
d [85-(39+18)]/2=14 pica
[102-(39+18)]/2=23 elite

85 (pica)
99 (elite)

elite
26 (and) 26

7-12

So far, arithmetic has been used to determine the LM and to check its correctness before you type. You also use arithmetic (and your table sketch) to locate the starting point for each column (so that you can set _____).

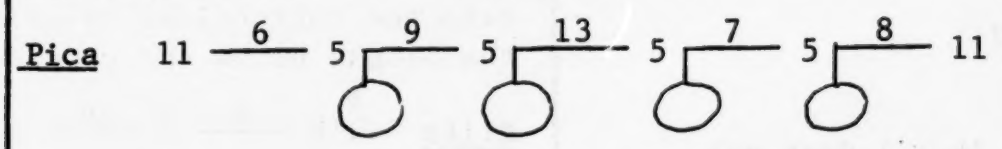


With LM at 27, column 2 begins at 27 + 12 + 8, which, circled below column 2, equals ____. Column 3 begins at 47 + 10 + 8, which equals ____. You would set two tab stops: the first at ____, another at ____.

tab stops
47
65
47
65

7-13

Here's a sketch* for another table:

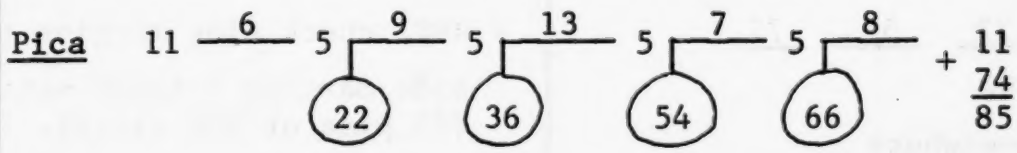


With circles for the points on the carriage scale at which each of the columns begins--and at which you would set _____--the numbers that you would write in the circles, in turn, are ____, ____, ____, ____.

*A sketch is also called a "table plan"--when it contains all the necessary numbers.

tab stops
22
(11 + 6 + 5)
36
(22 + 9 + 5)
54
(36 + 13 + 5)
66
(54 + 7 + 5)

7-14



Your first check (before inserting tab stop numbers) is to see that: margins + typed matter + ICs = ____ pica spaces. After tab stops are inserted in the plan, carry out a "right-end check"--last tab stop (66) + spaces in last column (8) = 74; and that total (74) + right margin (11) = ____. (Notice, at the right of the plan above, where the 74 is written.) If a "right-end check" turns out correctly, all your tab stops are probably _____.
(correct/incorrect)

85

85

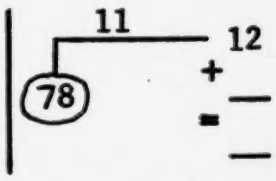
correct

7-15

To carry out a right-end check, add three things:

Beginning point of last column
\+ Spaces in longest item in last column
Spaces in right margin

If your plan is correct, the total will be ___ pica or ___ elite. For this right end of a plan:



a right-end check would show that 78 + 11 = ____ and that ____ + 12 _____ = 102.
(does/does not)

85

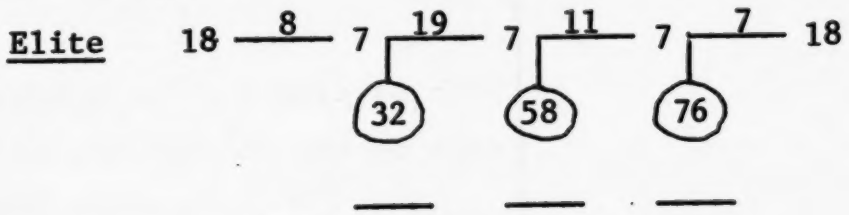
102

89

89 (+ 12) does not

7-16

Here's another plan, containing an error. Find it and make the corrections by writing the correct numbers in the blanks below the circles.



___ ___ ___

Notice that IF the last tab stop (76) is correct, a right-end check should show that 76 + 7 + 18 = ____. If not, you know there is a mistake _____.
(in the last column/somewhere)

33 59 77

102

somewhere

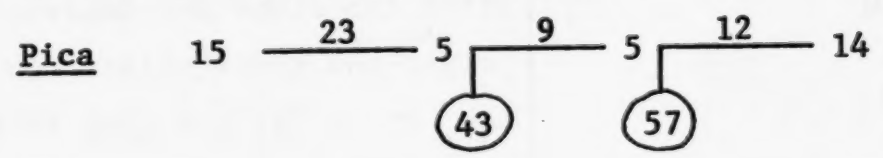
7-17

FIRST, check side margins to see whether:

side margins + typed matter + ICs = total spaces on page (85 pica or 102 elite). If not, correct the margins.

SECOND, check tab stops, one by one.

Now hunt for the error(s) below. Put the correct number(s) in the blank(s) below the plan.



___ ___ ___ ___

16 44 58 15

7-18

Check the side margins _____ you insert tab stop
(before/after)
numbers in the plan. After tab stop numbers are inserted, carry out a right-end check. If that check does not total ____ pica or ____ elite spaces, check all tab stops.

If the margins are wrong, can the tab stops be right? _____

If the margins are correct, can the tab stops be wrong? ___

before

85

102

no (see Frame 7-17)

yes (see Frame 7-16)

7-19

When your table plan is complete and has checked out correctly, you are ready to type--almost. First you must:

1. Clear previously set _____ and lock the right margin at extreme right--you don't need a RM in tables.
2. Set regulator for the desired vertical spacing.

Then--according to your table plan--set your _____ margin and a _____ for each column after the first one. Now, type across each _____ in turn, tabulating from the end of one _____ to the beginning of the next one.

tab stops

left

tab stop

row

column

7-20

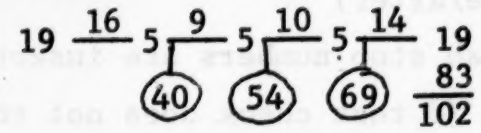
Now a little TEST.

For the table below (either in pica or elite), fill in the plan numbers for: (1) column widths, (2) side margins, (3) tab stops. Then do a right-end check. (IC = 5)

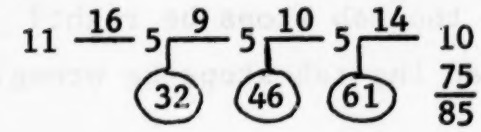
Economics Club	Thursday	Room 319	Mr. Montgomery
Glee Club	Tuesday	Auditorium	Mrs. Farrell
Mathematics Club	Monday	Room 258	Mr. Conway
Sewing Circle	Wednesday	Room 407	Miss Goldman

——— 5 ——— 5 ——— 5 ———

Elite



Pica



7-21

TEST continued.

Same instructions as preceding frame, but with IC = 8. Choose either pica or elite type.

Asia	Mt. Everest	29,028
North America	Mt. McKinley	20,320
africa	Mt. Kilimanjaro	19,340

7-22

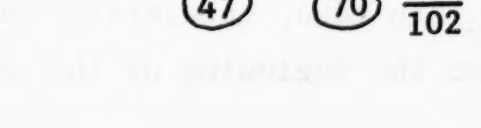
Did you make an error in either of the two TEST frames because you miscounted the number of spaces in the longest item in some column? (No answer required.)

If such an error is made, you should understand that: even if your plan checks out and even if you type according to your plan, your work will be off-center.

You should conclude from the above that it is especially important to identify correctly the longest item in each column and then carefully count _____.

its spaces
(or equivalent answer)

Pica



Elite

When you complete this section, you should know:

1. How to prepare a plan for tables with headings that shows the starting point for each column and column heading.
2. How to check the correctness of the plan before you type.
3. How to type from the plan.

8-0

Section 8

Tables with Column Headings

(Arithmetic Method)

31 Frames

8-1

State	Capital
Arkansas	Little Rock
Connecticut	Hartford

Excluding the CHs (column headings)--State and Capital--a pica plan for the table above, including a right-end check, would show:

29 —11— 6 —11— 28
(46)
57/85

The plan shows LM at ____, an IC (intercolumn) of ____ spaces, a tab stop at 29+11+6=__, and that: beginning of last column (46) + spaces in last column (11) + spaces in right margin (28) = ____. Notice, also, that the CHs are _____ in relation to their columns.
(blocked/centered)

8-2

A table plan is really a set of instructions for making machine settings (LM and tab stops). To be complete, the plan should also show the point on the carriage scale at which each other element or part of the table begins.

The table plan in the preceding frame (refer to it) shows that Little Rock begins at ____ on the carriage scale and that a tab stop should be set at that point. But the plan does not yet show where each of the CHs (column headings) begins. That is, it does not show the starting point for typing _____ and _____.

Also, the tab stop for column 2 is written BELOW the horizontal line in the plan because it marks the starting point for something that will be typed _____ the CH.

29

6

46

85

centered

State

Capital

below (or synonym)

8-3

State — Capital

Arkansas — Little Rock

Connecticut — Hartford

To center a short CH over a longer column, find the difference in length between the two; put half the difference on each side of the CH.

In column 1, above, the longest item is _____, containing ___ spaces. The CH uses ___ spaces. The difference is ___ spaces. Put half that difference, which is ___ spaces, on each side of the CH, like this: 3 5 3 (State / Connecticut / 11)

A centered State starts ___ spaces after the starting point of _____.

Connecticut

11

5

6

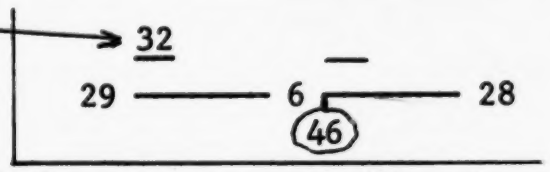
3

3

Connecticut

8-4

The preceding frame (refer to it) shows that the CH for column 1 should begin ___ spaces to the right of LM. Because that number is the starting point for a CH, which is typed above the column, you record it on your plan _____ the horizontal line, like this →



In column 2, Capital has ___ strokes, and Little Rock has ___ strokes. With half the difference on each side of Capital, that CH will start ___ spaces after the beginning of column 2. That CH will start at ___ on the carriage scale.

3

above

7

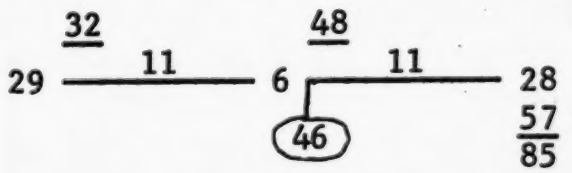
11

2 [½ of (11 - 7)]

48 (46 + 2)

8-5

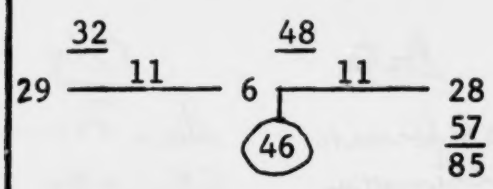
Here's the full plan for the table of 8-3:



Notice that CH numbers are written _____ (above/below) the line and are _____ (circled/underscored). Tab stop numbers go _____ (above/below) the line and are _____ (circled/underscored). The 57, shown at the right of the plan above, is part of the right-end check and is the sum of ___ + ___.

above
underscored
below
circled
46 (+) 11

8-6



The plan tells you exactly what to do and in what order.

First, make machine settings: LM at ___ and tab stop at ___.

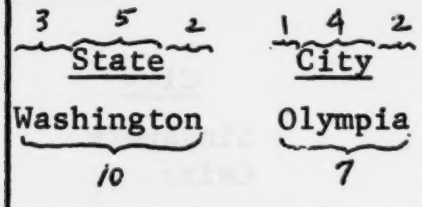
You do not set tab stops for the CH points because you will not be returning to those points once the CHs are typed.

With LM and tab stop set, the plan tells you to type the CH of column 1 at ___ and the CH of column 2 at ___.

When you next type across the rows below the CHs, you get from column 1 to column 2 by _____.

29
46
32
48
tabulating
(or equivalent)

8-7



The 5-space difference between Washington and State is divided, in the illustration, ___ spaces to the left (of State) and ___ spaces to the right. The 3-space difference in the right-hand column above is divided ___ to the left and ___ to the right (of City).

It does not matter whether you put the "larger half" of an odd number at the left or at the right--so long as you always put it on the same side: always left or always right.

Do the two examples above agree with that rule? ____

3
2
1
2
no

8-8

In these instructional materials--just to permit checking against a single model answer--when an odd number of spaces must be divided, please put the "larger half" at the left.

State	City	Region
California	San Francisco	Pacific Coast

In centering each of the CHs above, the number of blank spaces to the left would be: before State, ____; before City, ____; before Region, ____. The same principle applies when the CH is longer than the column below. To the left of Trenton, there should be ____ blank spaces.

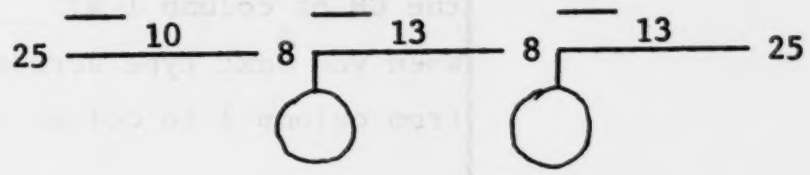
Capital City
Trenton
Boston

3 (larger half of 10 - 5)
5 (larger half of 13 - 4)
4 (larger half of 13 - 6)
3 (larger half of 12 - 7)

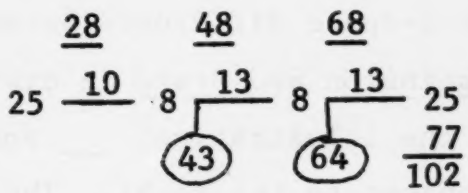
8-9

State	City	Region
California	San Francisco	Pacific Coast
Illinois	Chicago	Midwest

In the plan below, first fill in all the tab stop numbers (in the circles); then do a right-end check. Finally, fill in the CH numbers (in the short blanks).



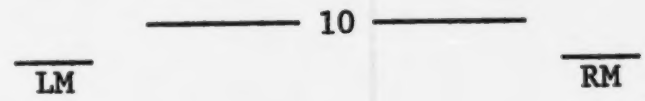
[This frame makes a convenient stopping point; or you may wish to continue through 8-17 or 8-21 or 8-24 or 8-31.]



8-10

City	Continent
Singapore	Asia
Cairo	Africa

In identifying the longest item in each column, the CH is part of the column. The longest item in column 2, above, is its CH, containing ____ spaces. The first step in table planning (before tab stops and CH numbers) is to determine the side margins. For the table above, fill in the missing numbers in the plan below (column widths and elite margins).



9

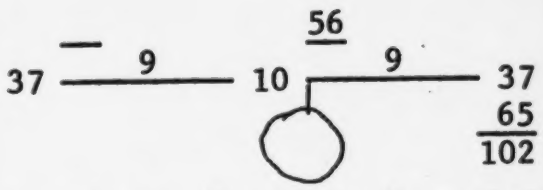
37 9 10 9 37

[9 + 10 + 9 = 28; and
½ of (102 - 28) =
74/2 = 37]

Note. The diagonal or fraction bar (/) is also a division sign. 74/2 means 74 ÷ 2.

8-11

City	Continent
Singapore	Asia
Cairo	Africa



After the side margins, you next locate the beginning of the longest item in each column, like this: LM (37) + column 1 (9) + IC (10) bring you to the beginning of column 2, at 56. BUT the longest item in column 2 is the CH; so 56 is written _____ the line. Next, the right-end check:
(above/below)

56 + column 2 (9) = ____, which, added to the RM of ____, totals ____.

above

65
37
102

8-12

City / Continent

Singapore / Asia
Cairo / Africa

37 —(9)— 10 56 (9) 37
65
102

Not yet shown in the **plan** are the CH number for column 1 and the tab stop for column 2. Since, as the plan above shows, Singapore begins at ____, a centered City would begin at ____. Since, as the plan shows, Continent begins at ____, for the items below to be centered beneath their CH, a tab stop should be set at ____. In the little blank above column 1, you would write ____; in the circle, ____.

37

40 [37 + ½ of (9 - 4)]

56

58 [56 + ½ of (9 - 6)]

40

58

8-13

City / Continent

Singapore / Asia
Cairo / Africa

37 40 (9) 10 56 (9) 37
58
65
102

The complete table plan above tells you to do the following things in the following order:

(1) Set LM at ____. (2) Set tab stop at ____. (3) Type City, starting at ____. (4) Type Continent, starting at ____. Next, double space below the CH line; set line space regulator for desired spacing; then type the items in the rows, moving from column 1 to column 2 by _____.

37

56

40

56

tabulating

8-14

Carry out a right-end check as soon as you know the plan number for the longest item in the last column.

Item	Stock No.	Stock No.	Item
Stapler	214	214	Stapler
Desk pad	137	137	Desk pad

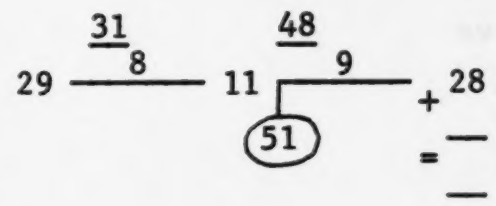
To carry out a right-end check: in the table at the left, start with the plan number for _____ (Stock No./214); in the table at the right, start with the plan number for _____ (Item/Desk pad).

Stock No.

Stapler

8-15

Item	Stock No.
Stapler	214
Desk pad	137



The right-end check is: _____ + ____ = ____; and 28 + ____ = ____.
(48/51)

48 + 9 = 57

(28 +) 57 = 85

8-16

Here are the steps in table planning:

1. Insert column widths and ICs. Subtract their total from 102 (or 85) and divide the difference between the two side margins.
2. Add across, starting at LM, and show the starting point for the longest item in each column--as a CH number if the CH is longer; otherwise, as a tab stop number.
3. Make a right-end check: starting point of last column + spaces in last column + RM. If the total is not 102 (or 85), go back to the beginning and find your mistake(s).
4. Finally, insert all other CH and tab stop numbers.

In the table plan of Frame 8-15 (refer to it) the last two numbers inserted were ____ and ____.

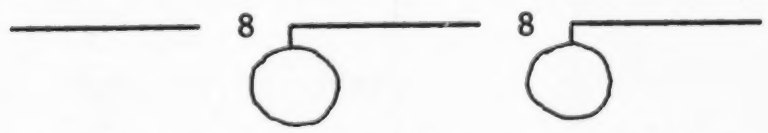
31 (and) 51
(either order)

8-17

Now a little TEST. Follow the steps of 8-16.

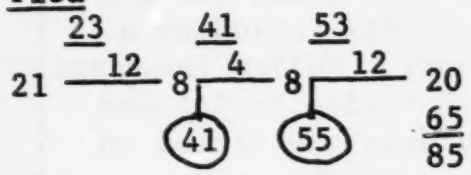
Complete the plan for the table below, including side margins and a right-end check--using either pica or elite.

President	Born	Native State
T. Jefferson	1743	Virginia
A. Lincoln	1809	Kentucky

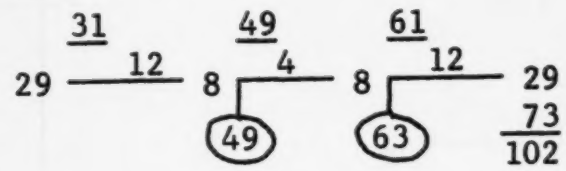


[This frame makes a convenient stopping point; or you may wish to continue through 8-21 or 8-24 or 8-31.]

Pica



Elite



b

c (or 4th letter)

8-18

Stock No.
264
302
419
578
622

At the left is just the beginning of a much longer first column in a table. The CH is typed once--but you will be returning the carriage many more times to type the items below the CH. You don't want to have to tabulate after every carriage throw.

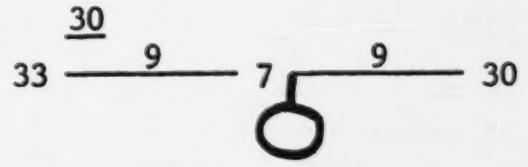
SO: After you have typed the CH and located the point at which 264 begins, you should _____. (a/b)

a. Set a tab stop there
b. Reset LM there

The numbers in the column above should start under the _____ of the CH.
(what letter?)

8-19

Stock No.	Item
264	Desk pads
302	Staplers



The plan for the table above shows that when the CH is the longest item in the first column of a table, its starting point is shown as a _____ number _____. (CH/LM) (above/at the left of)

the first column in the plan. Because the LM will be reset, the LM number in the plan shows the starting point for _____. The tab stop for column 2 will be set at (Stock No./264)

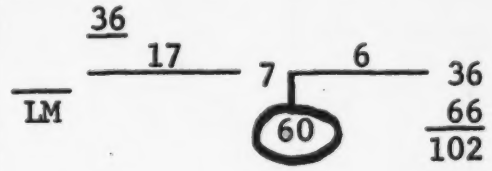
_____. (a/b)

a. 30 + 9 + 7 = 46
b. 33 + 9 + 7 = 49

8-20

Highest Mountains	Feet
Everest	29,028
Aconcagua	22,834
McKinley	20,320
Kibo	19,340
Elbrus	18,481

The first part of a plan for the table at the left shows:



The plan shows that at 36 you type _____. Since (Everest/the CH)

LM should be reset to center the first column under its CH, the number that should be written in the LM blank in the plan above is ____. You reset the LM _____ you (before/after)

type the CH of column 1.

CH

above

264

a

the CH

40 [36 + ½ of (17 - 9)]

after

Pica

28 48

31 —7— 9 —13— 28

(44) 57

85

Elite

37 57

40 —7— 9 —13— 36

(53) 66

102

1

3

2

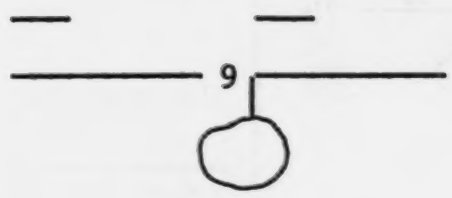
1

$

Now a little TEST. 8-21

Chapter	Topic
1	Punctuation
2	Spelling
3	Syllabication

Complete the plan below for the table at the left--including a right-end check. Follow the steps of Frame 8-16 (refer to it) and take into account the frames on page 7. Choose either pica or elite type.



[Stop here; or continue through 8-24 or 8-31.]

8-22

Price
$34
22
14
8

The principle of not setting a margin at a point at which only one item will be typed (Example: for the CH when it is the longest item in column 1) also applies to tab stops in columns after the first one. In the column of prices above, the $ is typed ____ time(s). The tab stop should therefore be set at the _____ ($/3/4)

of $34, and your table plan should show it at the scale number _____ (1/2) spaces after the CH number for Price. If so, when you first tabulate to that column to type $34, you must remember to backspace ____ time(s) and type ____.

8-23

Regular Price	Sale Price
$8.40	$7
6.20	5

If the CH of column 1, above, begins at 40 on the carriage scale, the tab stop for that column should be set at ____. If the CH of column 2 begins at 58, the LM for that column should be reset at ____.

45 [1 space after the $; the $ is at 40 + ½ of (13 - 5) = 40 + 4 = 44; and 44 + 1 = 45]

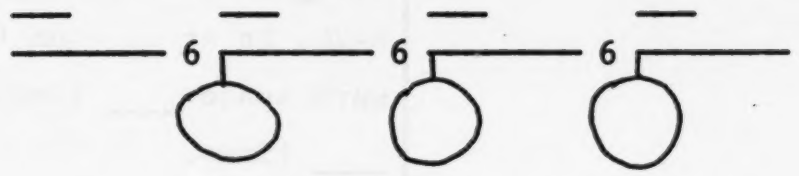
63 [1 space after the $; the $ is at 58 + ½ of (10 - 2) = 58 + 4 = 62; and 62 + 1 = 63]

8-24

Now a little TEST.

Complete the plan for the table below, including a right-end check, using either pica or elite type. Try to do so without referring to Frame 8-16.

Club	Membership	Sponsor	Fee
Economics	112	Ms. Hartman	$ 6
Carpentry	43	Mr. Spence	15

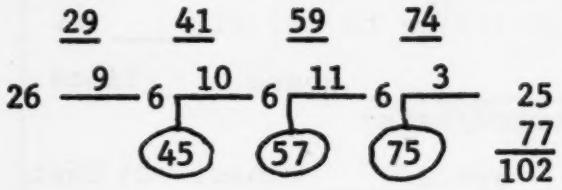


[Stop here; or continue through 8-31.]

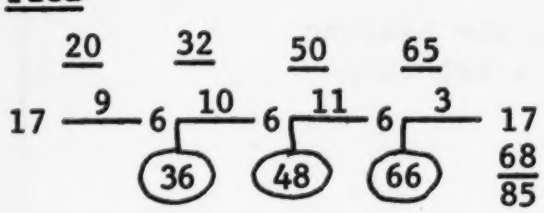
8-25

Some typists prefer to use a mixture of arithmetic planning and backspace methods for typing tables with column headings. They make an arithmetic plan to locate the starting point for the longest item in each column. They they use backspace methods to center short headings _____ longer (under/over) columns or short _____ under longer _____.

Elite



Pica



over
columns
headings

8-26

Group	No. of Members	Headquarters
Opera Guild	212,817	New York
Voters' League	14,645	Boston

A plan for "longest items only" shows:

22 14 10 46 13 10 69 12 21
81
102

Not yet shown on the plan are the starting point for the CH of column ____ and the tab stops for columns ____ and ____--because they will be located by the _____ method.

1
2 (and) 3
backspace

8-27

To center one item in relation to another (a CH in relation to its column or vice versa)--without counting or arithmetic--you must first find the midpoint of the longer item. From it, you then center the shorter item by backspacing 1 for 2 in the usual way.

To find the midpoint of an item: from its first letter, just FORWARD SPACE 1 for 2. To find the midpoint of No. of Members in the table of the preceding frame, just start at the N of that CH, which, according to the plan in Frame 8-26, is at ____ on the scale. Next, spelling by 2's, forward space ____ times. Then, center 212,817 by backspacing ____ times.

46
7
3

8-28

To center New York under Headquarters, you would start (according to the plan in Frame 8-26--refer to it) at ____ on the scale. Next, you would _____ space ____ times.
(forward/back)

Finally, you would _____ space ____ times. At that
(forward/back)

point, you would _____.
(a/b)

a. Type the heading
b. Set a tab stop

69
forward
6
back
4
b

8-29

To center Group over Voters' League you would start (according to the plan in Frame 8-26--refer to it), at ____. Then you would _____ space ____ times, and next
(forward/back)

_____ space ____ times. At that point, you would
(forward/back)

_____.
(a/b)

a. Type the heading
b. Set a tab stop

22

forward

7

back

2

a

8-30

Stock No. — Item

56 — Typewriter
142 — adding machine

In pica type (with IC = 10), the S of Stock No. would start at 26 on the scale. To center the longest item below that CH, you would forward space ____ time(s), then backspace ____ time(s). At that point, you would _____.
(a/b/c/d)

a. Set a tab stop
b. Reset the LM
c. Type the CH
d. Type 56

8-31

Now a little TEST.

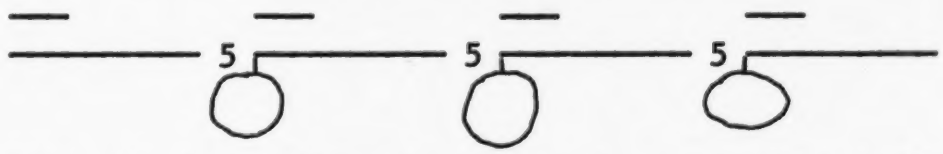
4

1

b

For the table below (in either pica or elite) show ONLY the numbers at which the longest item in each column begins, plus a right-end check. Assume machine settings at the $, rather than 1 space to the right of it.

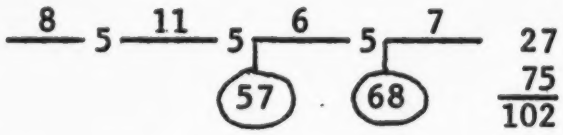
Earnings	Federal Tax	FICA	Net
$550	$103.03	$26.40	$420.57



To locate the $ in column 2, start at ____ on the scale, forward space ____ times, then backspace ____ times.

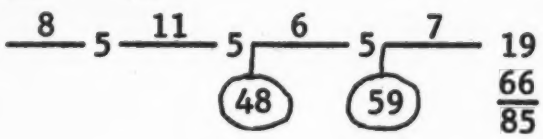
Elite

28 41



Pica

19 32



41 (elite) or 32 (pica)

5

3

When you complete this section, you should be able to type the kinds of tables and parts of tables listed in the table of contents in the next frame.

9-0

Section 9

Advanced Table Typing

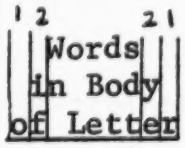
105 Frames

9-00

Here is a table of contents for this section.

Subsection	Frames
a. Two- and three-line column headings	1 - 10
b. Braced headings	11 - 34
c. Unequal intercolumn spacing	35 - 50
d. Blocking columns under a table title	51 - 61
e. Table footnotes	62 - 65
f. Tables in business letters	66 - 80
g. Tables in side-bound manuscripts and reports	81 - 91
h. Intercolumn spacing	92 - 105

9-1



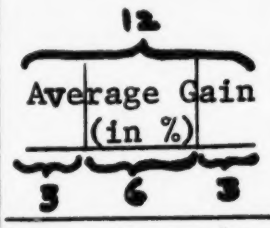
The CH (column heading) at the left contains several lines. Notice that each of the shorter lines is centered in relation to the longest line in the heading.

One of the two ways to center shorter heading lines is by counting, as described below:

The longest CH line is of Letter. It has ____ strokes; in Body uses ____ strokes. The difference of ____ strokes is divided equally on either side of in Body. SO: begin in Body ____ space(s) after the o in of Letter. In the same way: of Letter minus Words = ____ strokes--so that on each side of Words there should be ____ blank space(s).

9
7
2
1
4
2

9-2



To center one line in relation to another, just count the number of typewriter strokes in each line. Then put half the difference on each side of the shorter line. (See the illustration.)

If a 6-stroke item is to be centered over a 10-stroke item, on each side of the shorter item there should be ____ blank spaces. With a 10-stroke and an 18-stroke item, there should be, on each side of the shorter item, ____ blank spaces.

2 [½ of (10 - 6)]
4 [½ of (18 - 10)]

9-3

Words
in Body
100

If you use arithmetic and prepare a table plan before you type, the plan should show the starting point for each CH line.

If your plan shows that in Body (in the CH at the upper left) begins at 30 on the scale, it should also show that the W of Words begins at ____, as shown below.

The 7 in the plan is the number of strokes in the longest item in the column (in Body). The circled 32 is the point at which 100 starts--the point at which you set a _____.

31
30
7
(32)

31
tab stop

9-4

Words in
Body
86

If a plan for a table that includes the column at the left shows that Words in begins at 30, it should also show that Body begins at ____. Body is typed below Words in; therefore, its starting point should be shown in your plan _____ the 30.
(below/above)

Following the model of the plan in the lower right corner of the preceding frame (refer to it), fill in the CH numbers for the column at the upper left in this frame. Write the two CH numbers just above the little blank. _____

___
8
(33)

32
below
30
32
8
33

9-5

Annual Rainfall Average Temperature Elite Margins

If Rainfall begins at 36 on the scale, Annual should begin at ____. Over what letter in Temperature should the A of Average be typed? ____ The E of Elite should appear over the ____ of Margins.

9-6

37
m
a

6 7
Area
(in Square Miles)
3 15,730,420 4

7 6
Area
(in Square Miles)
4 15,730,420 3

6 7
Area
(in Square Miles)
4 15,730,420 3

The longhand numbers in the CHs above show the number of blank spaces to the left and right of the typed item. Notice that when an odd number of strokes (13 and 7) is divided, the extra space may be put either at the left or at the right. It does not matter on which side you put it--so long as you always put it on the same side each time: always at the left or always at the right.

Among the three CHs above, the one that does not obey the rule about extra space is No. ____.

9-7

3
(The extra space is at the right of Area but at the left of 15,730,420.)

Words in Body
98

The second of the two ways to center shorter CH lines is by forward and backspacing. You forward space "1 for 2" into the middle of the longer item; then you backspace 1 for 2 to find the starting point for the shorter item, like this:* (1) To find the middle of Words in, start at the W and tap the space bar once for each two strokes in Words in, using a total of ____ taps. (2) Then, to find the starting point for Body, backspace 1 for 2 a total of ____ times.

*To fill the blanks that follow, spell mentally by 2's as you count on your fingers.

4
2

9-8

When you use spacing methods to center a shorter item in relation to a longer item, you start by _____ (forward/back) spacing 1 for 2 into the middle of the _____ (shorter/longer) item; then you _____ (forward/back) space 1 for 2 to find the starting point for the _____ (shorter/longer) item. Where the backspacing ends, start to type the _____ (shorter/longer) item.

forward
longer
back
shorter
shorter

9-9

Annual Rainfall | Average Temperature | Discount (in %)

Using forward and backspacing methods to center shorter CH lines, in column 1, above, you would first forward space into the middle of _____ a total of ____ times; then, to center _____, backspace ____ times. To center Average, first find the midpoint of _____ by forward spacing ____ times; then backspace ____ times. In the last column, forward space ____ times into the middle of _____; then backspace ____ times.

Rainfall
4
Annual
3
Temperature
5
3
4
Discount
3

Now a little TEST. 9-10

Net Sales | Federal Tax | Population (in Thousands)

1. The N in Net should be typed over the _____ (what letter?) in Sales.
2. On each side of Tax there should be ____ blank spaces.
3. To center Population by spacing methods, you would forward space ____ times, then backspace ____ times.

[End of subsection on 2- and 3-line column headings]

1. a
2. 2
3. 7
   5

9-11

Subject	Registration Boys	Girls
Typing	180	307
Shorthand	30	115

A heading that embraces or spans or covers several other CHs is called a "braced heading" or "spanner heading." Above, the braced head is _____. Boys
(Subject/Registration)
and Girls fit nicely below (with a few blank spaces between them), and they are blocked at the left and right of the _____ heading.

Registration
braced (or spanner)

9-12

Letter Length Side Margins Left Right

Side Margins is called a _____ head(ing). If Left and Right are blocked under Side Margins, Left will start under the S of Side Margins. For Right to end under the final s of Side Margins, it must begin under the _____ (what letter?) of Side Margins.

In the table above, would you have to plan in advance how many spaces to leave between Left and Right? _____

braced (or spanner)

r

no

(Just so long as there is at least 1--but preferably 2 or more--blank spaces separating them, you do not need to know in advance exactly how much separation there will be.)

9-13

Test Scores Men Women

Test Scores
|||||
nemoW

The strange-looking illustration just to the left shows the easiest way to determine the starting point for a CH that is to be blocked at the right of a _____ heading. Here's how to do it:

Position the carriage in the space after the final s of Test Scores and backspace through it--letter by letter--as you spell the CH that is to be blocked below it. If you do that, when you finish spelling Women, you will be at the _____ (what letter?) of Test Scores. If Men were to be blocked at the right, you would spell backwards to the ____ of Test Scores.

braced (or spanner)
c
r

9-14

① Registration Boys	Girls	② Registration Boys	Girls	③ Registration Boys	Girls	④ Registration Boys	Girls

With a 1-line braced head and 1-line CHs blocked beneath the braced head, a separation between the braced head and its CHs is permissible, but not required. Separation is by underscoring or by a blank line or by both.

No separation is used in illustration no. ____. Only a blank line is used in no. ____. Only underscoring is used in no. ____. Both underscoring and a blank line are used in no. ____. Are all four illustrations correct? ____ Which one do you like best? No. ____.

2
3
1
4
yes
It's up to you!
(But don't you think No. 1 is rather crowded looking?)

9-15

Examination Grades

Name	Grade
Collins	B
Franklin	A
Grant	C

Notice at the left that the longest item (sometimes the CH, sometimes not) is blocked under the _____ head(ing). In the left-hand column _____ (Name/Franklin) is blocked. At the right, _____ (Grade/B) is blocked. Because both CHs (Name and Grade) _____ (are/are not) blocked, a blank line between the braced head and its CHs _____ (is/is not) necessary.

braced
Franklin
Grade
are not
is

9-16

Examination Grades

Name	Grade
Franklin	A

Registration

Boys	Girls
93	112

The illustrations show that a blank line between the braced head and its CHs must be used when the CHs _____ (are/are not) blocked; that is, when the CHs _____ (are/are not) the longest items in their columns. In the illustration at the right, underscoring or a blank line (or both) between the braced head and its CHs would be _____ (wrong/permissible).

are not
are not
permissible

9-17

① Spring Term Registration		② Letter Placement		③ Average Test Score	
		Pica	Elite		
Boys	Girls	Margins	Margins	Boys	Girls

So far, we have considered 1-line braced heads with 1-line CHs. When the number of lines in the braced head differs from the number of lines in the CHs below, you MUST use as a separator either a blank line only, as in No. ____ above; or underscoring only, as in No. ____; or both, as in No. ____ above.

3
2
1

9-18

Price		Price	
Regular	Sale	Regular	Sale
$8	$7	$8	$7

Up to now, we have considered columns that fit within the width of the braced head.

When the braced head is SHORTER than the columns it spans as in the two illustrations above, underscoring as a separator is _____ and a blank line is
(permissible/required)
_____. The underscoring runs across the
(permissible/required)
width of the _____.
(braced head/columns)

required
permissible
columns

9-19

① Pacific Coast		② Pacific Coast	
State	Capital	State	Capital
California	Sacramento	California	Sacramento

When a braced head is shorter than the columns it spans, the underscoring that separates it from its columns should run from the left edge of the left-hand column to the right edge of the right-hand column. Of the two illustrations above, the correct one is No. ____. Notice also that with a shorter braced head, if the CHs below are not the longest items in their columns, the braced head is separated by

_____.
(only underscoring/only a blank line/both)

9-20

Note. Use in the blanks either P (Permissible) or R (Required).

1. When the braced head is at least as wide as blocked CHs below:

   a. If both use 1 line, underscoring or a blank line or both, as a separator, is ____.

   b. If the number of lines in the braced head differs from the number of the CHs below, underscoring or a blank line or both is ____.

2. If a braced head is wide enough for the columns beneath it--but if the longest item in some column is wider than its CH--to separate the braced head from its CHs, underscoring is ____ and a blank line is ____.

2
both

9-21

Note. Use in the blanks P (Permissible) or R (Required).

3. When the braced head is shorter than the columns below:

   a. If the CHs are the longest items in their columns, underscoring is ____ and a blank line is ____.

   b. If the CHs are not the longest items in the columns, underscoring is ____ and a blank line is ____.

4. Whether or not columns (or CHs) can be blocked under a braced head, to separate the braced head from its CHs the use of both underscoring and a blank line is always _____.

[This frame makes a convenient stopping point; or you may wish to continue through the end of this subsection, Frame 9-34]

1a. P (See 9-14)

1b. R (See 9-17)

2. P / R (See 9-15)

9-22

Freshman Team	
Starters	Alternates
Bellini	Green
Conklin	Heinrich
Henderson	Rosario
9	4 10

Notice at the left that when a braced heading is narrower than the columns it spans, it is centered over them. Notice also the spacing and underscoring after the braced head. Here's how to center the braced head:

Column 1 uses ____ spaces; column 2 uses ____ spaces; and between columns there are ____ spaces--for a total of ____ spaces. Freshman Team uses ____ spaces. Now divide in half the difference between total spaces and the spaces in Freshman Team. The result is to leave at the left of the braced head ____ blank spaces.

3a. R / P (See 9-18)

3b. R / R (See 9-19)

4. P (See 9-14 through 9-19)

9
10
4
23
13
5 [½ of (23 - 13) = 10/2 = 5]

Note. The diagonal or fraction bar (/) is also a division sign. 10/2 means 10 ÷ 2.

9-23

At Home Games	
Opponent	Date
Princeton	November 8
Yale	December 6
Harvard	December 13
5	

At the left is part of a football schedule, showing 5 spaces between columns.

To center At Home Games over the pair of columns, note that Princeton + intercolumn space + December 13 = ____ + ____ + ____, for a total of ____ spaces. The braced head has ____ spaces. If you divide the difference by 2, you will see that at the left of the braced head there should be ____ blank spaces. Therefore, start At Home Games lined up over the _____ of Princeton.
(what letter?)

9
5
11
25
13
6 [½ of (25 - 13) = 12/2 = 6]
t (the 7th letter)

9-24

Away from Home Games	
Opponent	Date
Brown	November 15
Columbia	November 22
Pennsylvania.....	November 27
5	

Across the two columns at the left, including IC (intercolumn) space, there is a total of ____ spaces. The braced head contains ____ spaces. If you divide the difference of ____ spaces in half, you will find that, to the left of the braced head, there should be ____ spaces. The braced head should start lined up over the ____ of Pennsylvania. From the LM (or tab stop) at the beginning of the left-hand column, to find the starting point for Away, space forward ____ times.

28
20
8
4
s (the fifth letter)
4

9-25

FOOTBALL SCHEDULE

At Home		Away from Home	
Opponent	Date	Opponent	Date
Princeton	November 8	Brown	November 15
Yale	December 6	Columbia	November 22
Harvard ...	December 13.....	Pennsylvania...	November 27
3	6	3	

If properly centered, the A in At Home should be lined up over _____ in Princeton. The A in Away from Home
(what letter?)
should be lined up over the _____ in Pennsylvania.
(what letter?)

final n
(23 spaces in Princeton + IC + December 13 minus 7 spaces in At Home = 16 and 16/2 = 8. For 8 blank spaces at left of At Home start over the 9th letter of Princeton--n.)

1
(26 spaces in Pennsylvania + IC + November 27 minus 14 spaces in Away from Home = 12, and 12/2 = 6. For 6 blank spaces at left of Away from Home, start over the 7th letter of Pennsylvania--1.)

(forward) 11

(back) 3

longest

9-26

In the preceding four frames the braced head was centered by counting spaces. It can also be centered by forward and backspacing.

To center At Home over the first pair of columns in the preceding frame (refer to it), forward space 1 for 2 through Princeton + December 13 + the 3-space IC (intercolumn); then backspace 1 for 2 through At Home. Count on your fingers and spell by 2's mentally to determine that, to center At Home, you would forward space ____ times; then backspace ____ times.

9-27

The fastest way to type tables like that of Frame 9-25 (refer to it) requires you to space up and down between one line and another, like this:

1. Center the title; then space down to the Princeton line.
2. From LM (Elite 24, Pica 15), type Princeton + 3 IC spaces; then set tab stop.
3. Turn down to December 13 line and type it + 6 IC spaces; set tab stop.
4. Type Pennsylvania (same line as December 13) + 3 IC spaces.
5. Set tab stop and type November 27 (same line).

Notice that you set tab stops as you go along and that the first thing typed in each column is the _____ item. (first/longest)

9-28

6. For the various headings (braced and CHs), turn to the proper line for each. Then, either by forward and backspacing or by counting and arithmetic, CENTER--
   a. Each CH over its column
   b. Each braced head over its pair of columns
7. To underscore the first braced head, line up over the 3 of December 13 and strike an underscore; then push back to LM and underscore up to the last one. Use the same process to underscore the second braced head. Start by lining up over the ____ in _____. (what word?)
8. With all headings typed and tab stops set, turn to row 1 and type. Remember to tabulate past items already typed.

7 (in) 27

9-29

In a table with just a few rows, it is easy to space up and down from one line to another in order to type first the longest item in each column. But with many rows, finding the right line each time might be troublesome. Therefore, instead of typing each longest item, just space through it: 1 space bar tap for each stroke in the longest item.

In the table of Frame 9-25 (refer to it), instead of typing Princeton, from LM tap the space bar ____ times + 3 IC spaces. Set tab stop and then space through December 13, using ____ space bar taps, and so on. In that way, _____.
(a/b)

a. Moving up and down from line to line is easier

b. You stay on the same line

9

11

b

9-30

Name	Items Typed No.	Items Typed %	Increase in Errors No.	Increase in Errors %	Grade
Olivetti	6	75	2	10	86

When the CHs in a table vary (braced and not braced, 1 line and more than 1 line), it is the CHs, not the braced heads, that are lined up.* If the longhand column at the right were to be added to the table, Grade would be typed on the same line as _____.
(Name/Items Typed/Increase in)

*Unless the table is ruled horizontally and vertically.

Name

9-31

Federal Reserve Discount Rate

1968	1969

The columns spanned by the braced head above are too far apart. If the braced head is broken up into 2 lines, line 2 will contain the word(s) _____, and the longer of those 2 lines will be the _____ one.
(first/second)

If the "year" columns are blocked under the longer of the 2 braced head lines, 1969 will start under the _____
(what letter?)
of _____.
(what word?)

Discount Rate

first

second e (of) Reserve

Federal Reserve
Discount Rate

1968 1969

9-32

Now a little TEST.

Price		Discount	
Regular	Sale	$	%
$140	$126	$14	10

4

1. If you center Price by spacing methods, you would forward space ____ times; then backspace ____ times.
2. If you center Price by counting methods, the P in Price should be lined up over the ____ in Regular.
3. If you block the pair of columns under Discount, between the 4 of $14 and the 1 of 10, there will be ____ blank spaces.

[Test continued in the next frame.]

1. (forward) 7
   (back) 2
2. a
   [½ of 15 - 5) = 10/2 = 5; and a is the 6th stroke in Regular.]
3. 3

Discount	
$	%
$14	10

9-33

TEST continued.

School System	
Rural	City

Annual Salaries of Administrative Staff	
Principals	Chairmen

4. The braced head must be underscored in the heading at the _____.
   (left/right)
5. A blank line to separate the braced head from the CHs below is more desirable in the heading at the _____.
   (left/right)

[Test continued in the next frame.]

4. right
5. right

9-34

TEST continued

Team Members	
Varsity	Second Team
Fenton	Thompson
Brown	Diaz
Dellapico	Flagman

Assume 4 IC spaces between columns.

6. Varsity should start lined up over the _____ in Dellapico. (what letter?)
7. Second should start lined up over the _____ in _____.
   (what word?)
8. Team Members should start lined up over the ____ in Dellapico.
9. Must there be a blank line after Team Members? _____

[End of subsection on braced headings]

6. e
7. h (in) Thompson
8. a (or p)
9. yes (because the CHs are not the longest items in their columns)

9-35

Item	Price Regular	Sale
Swim suits	$16.25	$14
Beach hats.....	4.30 ...	3
	6	3

Not all tables have equal spacing between columns. If some columns belong together, they should be typed close together.

Just above, the columns that belong together are Nos. _____.
(1-2/2-3)

When unequal IC (intercolumn) spacing is used, it is convenient and attractive for the wider spacing to be twice as wide as the narrower spacing. If, above, 5 spaces had been left between columns 2 and 3, then between columns 1 and 2, you should leave ____ spaces.

2-3
10

9-36

Major Party Votes

County	Republican	Democratic	Liberal
New York	38,485	90,817	269,345
Queens	111,378	222,977	269,996

If you decide to leave 2 spaces between columns 2 and 3, then between columns 3 and 4, leave ____ spaces; and between columns 1 and 2, ____ spaces.

Count the number of typewriter strokes in the braced head and across the 3 columns below (including the 2-space ICs). A centered braced head would start over _____ of
(what letter?)
_____.
(what word?)

2
4
c (of) Republican

[½ of (31 - 17) = 14/2 = 7, and the 8th stroke in the braced columns is the c of Republican.]

9-37

Student	Gross WPM Typing Speed Test 1	Test 2	Gain
Jane Hillman	34	36	2
Diane Wicks	38	37	-1

Here's how the columns under the braced heads are planned. The braced head uses 22 strokes; Test 1 + Test 2 + Gain use 16 strokes. The difference = ____ strokes and is divided equally between the 2 ICs under the braced head. Therefore, after blocking Test 1 at the left of the braced head, just space ____ times before typing Test 2. The first column is separated from the braced columns by ____ spaces.

6

3 (½ of 6)

6 (twice as much as the IC space between the braced columns)

9-38

Gross Typing Speed in WPM

Name Test 1....Test 2.....Gain

The braced head above is 25 strokes wide. The CHs below total 16 strokes. Can the difference of ____ strokes be divided equally? _____ As shown by the dots: between Test 1 and Test 2 there are ____ spaces. Between Test 2 and Gain there are ____ spaces. Does the width of ICs sometimes have to differ by 1 space? _____

9

no

4

5

5

yes

9-39

BIRTH DATES OF OUR PRESIDENTS

Washington	1732	Hayes	1822
John Adams	1735	Garfield	1831
Jefferson	1743	Arthur	1830

Tables with braced headings are not the only ones that sometimes require unequal IC spacing. As illustrated above, unequal spacing should be used whenever the information groups itself naturally into separate sets of columns. In fact, the table above does not even need ordinary column headings because the information in the columns is made clear from the _____ of the table.

title (or heading)

9-40

	Temperature (in Degrees)		Humidity (in %)	
Season	High	Low	High	Low
Spring	66	50	70	60
Summer.....	84	71.....	85	76
	12	5	8	5

Below the first braced head, the High and Low columns are separated by ____ spaces. To make the second braced head exactly as wide as the first one, its columns are also separated by ____ spaces. Between the two braced heads is _____ space; and, after the unbraced column (Season), _____ space.
(the same/more) (the same/still more)

9-41

The more complicated of the tables shown in Frames 11 through 40 require planning by arithmetic methods. The simpler ones could be done by backspacing.

To find the left margin by arithmetic: once you have decided on IC space, just subtract typed matter + IC space from the total across the page and divide the difference by 2.

Example: In the table of 9-40 (refer to it), its width consists of: Season + 12 IC spaces + (in Degrees) + 8 IC spaces + High + 5 IC spaces + Low, for a total of ____. On ordinary stationery, the LM (left margin) on your typewriter would be set at ____.

5

5

more

still more

9-42

In finding the LM of the table in Frame 9-25 by arithmetic methods (refer to it), the typed matter totals ____ spaces, and the ICs total ____ spaces, for a grand total of ____ spaces. On your typewriter the LM would be set at ____.

50

26 (elite)
[½ of (102 - 50)]

18 (pica)
[½ of (85 - 50)]

9-43

Backspace methods could be used for the table of Frame 9-39 (refer to it). Assume 3 IC spaces between columns within a set, and 6 IC spaces between the two sets of columns, for a total of ____ IC spaces. Just backspace (1 for 2) for: Washington + 1732 + Garfield + 1831. Then, for the total of ____ IC spaces, backspace ____ more times. Count on your fingers and spell (by 2's) mentally to determine that there will be a total of ___ backspaces--so that the LM on your typewriter would be set at ____. With 6 spaces after column 1 (in Frame 9-37, refer to it), the table would require ____backspaces; LM would be set at ____.

43
12
55

24 (elite)
[½ of (102 - 55)]

15 (pica)
[½ of (85 - 55)]

12

12

6

19

(elite) 32 (51 - 19)
(pica) 23 (42 - 19)

20

(elite) 31 (51 - 20)
(pica) 22 (42 - 20)

9-44

STUDENT INFORMATION

	Seating Assignment		School Record	
Name	Row	Seat	Class	Average
Kent, John	3	4	Junior	78
Macedo, Fred	2	6	Sophomore	82

1. If Row and Seat are blocked under Assignment, those two columns will be separated by ____ spaces.
2. Therefore, the same number of blank spaces should be left between Sophomore and _____.
3. If so, the two School Record columns will stretch across ____ spaces.

1. 3 [Assignment - (Row + Seat) = 10 - (3 + 4) = 10 - 7 = 3]
2. Average (longest item in last column)
3. 19 [Sophomore + 3 + Average = 9 + 3 + 7 = 19]

9-45

4. In the table of the preceding frame, assume 5 spaces between the two pairs of braced columns and 8 spaces after the unbraced column. Using, also, the model answers to the preceding frame, the entire table is ____ spaces wide.
5. On your typewriter, the LM for that table would be set at ____.
6. If you triple space after the table title, double space the rows of the table, and leave 1 blank line after the braced heads, the table is ____ lines long.
7. If centered on a ½-sheet, it would start on line ____; on a full sheet, it would start on line ____.

4. 54 (12 + 8 + 10 + 5 + 19)
5. Elite 24 [½ of (102 - 54) = 48/2 = 24]
6. 11
7. (Half) 12 [½ of (33 - 11) + 1]

   (Full) 28 [½ of (66 - 11) + 1]

Pica 16 [½ of (85 - 54) = 31/2 = 16]

9-46

The fastest way to type the table of Frame 9-44 (refer to it) requires you to space up and down between one line and another, like this:

1. Center the title; then space down to the CH line (Name, Row, etc.)
2. From LM (Elite 24, Pica 16), tap the space bar once for each stroke in the longest item in column 1.
3. Space 8 times.
4. Type and underscore Row.
5. Space 3 times; type and underscore Seat.
6. Space 5 times; set tab stop.
7. Space (don't type) 1-for-1 through Sophomore + 3 IC spaces. Then type and underscore Average.
8. Type and underscore Assignment, lined up over Row.

9-47

(Typing steps for the table of Frame 9-44 continued.)

9. Either by forward and back spacing or by counting and arithmetic, CENTER--
   a. Name over Macedo, Fred
   b. Class over Sophomore
   c. Seating over Assignment
   d. School Record over its two columns
10. Be sure to underscore the second braced head from the S of Sophomore to the final e of Average.
11. Finally, set tab stops for columns 2, 3, and 5--
   a. At the o of Row
   b. At the e or a of Seat
   c. At the first e or r of Average
12. Turn down to row 1, set for double spacing, and type the rows of the table.

Now a little TEST. 9-48

Freshman Grades	History		Earth Science		Both	
	No.	%	No.	%	No.	%
A	4	10	3	5	7	7
B	8	20	15	25	23	23
C	16	40	27	45	43	43
D	8	20	12	20	20	20
F	4	10	3	5	7	7

1. If the No. and % columns are blocked under History, between those 2 columns there will be ____ blank spaces.

[Test continued in the next frame]

TEST continued (based on the table of 9-48). 9-49

2. If you leave twice as much space between the sets of braced columns, they will be separated by ____ spaces.
3. If column 1 is followed by twice as many blank spaces as are left between the sets of braced columns, total IC space (excluding spaces between No. and %) = ____.
4. The width of the entire table is ____ spaces, and LM on your typewriter would be set at ____.
5. The underscore below the last braced head is _____ (how many?) spaces wide.

[Test continued in the next frame]

2

History	
No.	%
3	6
10	..20

2. 4 (2 x 2)

3. 16 [8 after column 1
(2 x 4) + 4 + 4]

4. 45 [16 IC spaces +
8 + 7 + 7 + 7]

29 (elite)
[½ of (102 - 45)]

20 (pica)
[½ of (85 - 45)]

5. 7 [from the N of No.
to the right edge
of the % column]

6. 4

5

6

7

7

7. 17

9 [½ of (33 - 17),+1]

25 [½ of (66 - 17),+1]

title (or heading)

tab stop

R (of) THEIR

9-50

TEST continued (based on the table of 9-48).

Assume: (a) a 1-line table title--Distribution of Freshman Grades in Two Subjects, (b) a blank line after the braced heads, and (c) a double-spaced body.

6. If the title (followed by triple spacing) is line 1, Earth is on line ____; History is on line ____; Freshman, one line ____; Grades, on line ____; No. and % are on line ____.

7. With a double-spaced body, the entire table is ____ lines long. If centered on a ½-sheet, it would start on line ____; on a full sheet, on line ____.

[End of subsection on unequal intercolumn spacing]

9-51

← tnaM

STATES AND THEIR CAPITALS

Alabama Montgomery
Alaska Juneau

Whenever possible, CHs should be blocked under a braced head. In the same way, as shown at the left, columns should be blocked under the _____ of a table--whenever they will fit and still leave a reasonable number of IC spaces.

To find the starting point for the last column--so that you can set a _____--position the carriage in the space after the table title and backspace 1 for 1 as you spell the longest item in the column. Or, as shown by the longhand above the title, start at the final S and point backwards with your pencil point as you spell Montgomery. Either way, you will find that a tab stop should be set at _____ (what letter?) of _____ (what word?).

9-52

EUROPEAN CAPITAL CITIES

Country Capital
Sweden Stockholm
Norway Oslo

Of course you know that the longest item in a column is blocked. In the example at the left, the word that should end under the last letter of the table title is _____ (Capital/Stockholm). The word that starts under the E of European is _____ (Country/Sweden). A centered Capital will start over the _____ (what letter?) of Stockholm.

Stockholm

Country

t

9-53

PRESIDENTIAL BIRTH YEARS AND STATES

Washington	1732	Virginia
John Adams	1735	Massachusetts
10 4	4 4	13

The title at the left uses 35 strokes. As shown by the underscored stroke count below the table, the typed matter uses 10 + 4 + 13 = ____ strokes. Remaining for ICs are 35 - ____ = ____ strokes. Equal division of these remaining strokes puts, between columns, ____ strokes. After typing Washington, space ____ times and set a tab stop for column ____; after typing 1732, space ____ times and set a tab stop for column ____.

27

(35 -) 27 = 8

4 (8 ÷ 2)

4

2

4

3

9-54

To block columns under a table title, you have to count and use arithmetic to determine (a) whether all columns will fit under the title and (b) how much space to leave between columns, like this:

- Typewriter strokes in the table title
- Typewriter strokes in the columns

= Spaces available for intercolumns

Assume a 3-column table with a 40-stroke title and column widths of 8, 12, and 10 spaces. Unused space for ICs = ____. If divided equally between two intercolumns, each IC would equal ____ spaces.

10 [40 - (8 + 12 + 10) = 40 - 30 = 10]

5 [10 ÷ 2]

9-55

DISTRIBUTION OF FRESHMAN GRADES IN TWO SUBJECTS

Grade	History No.	History %	Earth Science No.	Earth Science %	Both No.	Both %
Pass	36	90	57	95	93	93
Fail	4	10	3	5	7	7
	11		5		5	

- Strokes in table title = 47
- Typed matter (5 + 7 + 7 + 7) = ____ (Fill in the two blanks.)

= Intercolumn spaces = ____

To leave about twice as much IC space after the unbraced column as between the braced columns, put, between the braced heads, ____ spaces and, after column 1, ____ spaces.

9-56

The sketch for the table of Frame 9-55, below, shows how to divide the 21 IC spaces among the columns.

——— xx ——— x ——— x ———

With x standing for an unknown number of spaces between columns, we want x spaces between columns 2 and 3 and between columns 3 and 4. Between columns 1 and 2, we want twice as much space--two x's worth. All together, there are 4 x's that have to be divided into 21 IC spaces.

21 ÷ 4 (to the nearest whole number) = 5. That is, x = 5 and xx = 10. But 10 + 5 + 5 = 20; so change the 10 to 11.

Check: 11 + 5 + 5 = 21.

If there had been a total of 17 IC spaces, after column 1 you would leave ____ blank spaces.

26

21 (47 - 26)

5

11 (as close as possible to twice as much as 5)

9-57

In tables like that of 9-55, first count strokes in the typed matter; then do the arithmetic of determining IC space. When you are ready to type, it is easiest to type the longest item in each column first; then turn the roller up or down a line to type shorter items, like this:

In 9-55 (refer to it): (1) Turn down to the Grade line and and type it. (2) Space ____ times, turn up ____ line(s), and type _____. (3) Space ____ times and type _____. (4) Space ____ times to the last column and type ____ underscores. (5) Then fill in the missing items (Both, Earth, No., %). (6) Finally, set tab stops at the beginning of each No. column and each ____ column.

9

[17 ÷ 4 = 4; so x = 4 and xx = 8. But 8 + 4 + 4 = 16. So, add the extra space to the 8, making it 9.]

9-58

Table Title
x
x
Earth
Science
x
No. % e
x
57 95
x
3 5

For vertical centering, the table of Frame 9-55 (refer to it) might be sketched as shown at the left, in which a little x stands for a blank line. As shown, after the table title you _____ space. The 2-line (double/triple) braced head is typed in _____ spacing. (single/double) Thereafter, you _____ space. As sketched, the table is ____ lines long. If centered on a half sheet, the table would start on line ____; on a full sheet, on line ____.

11

1

History

5

Science

5

7

%

triple

single

double

11

12
[½ of (33 - 11), + 1 =
½ of 22, + 1 = 11 + 1 = 12]

28
[½ of (66 - 11), + 1 =
½ of 55, + 1 = 27 + 1 + 28]

9-59

Now a little TEST (columns blocked under title).

Seasonal Temperature and Humidity Highs and Lows

Season	Temperature		Humidity	
	High	Low	High	Low
Spring	66	50	70	60
Summer	84	71	85	76

1. If High and Low are blocked under Temperature and if the Humidity columns are to be as wide as the Temperature columns, columns 4 and 5 will stretch across ____ spaces; between columns 4 and 5 there will be ____ spaces.

[Test continued in the next frame]

11 (same width as Temperature)

4 [11 - (High + Low) = 11 - (4 + 3)
= 11 - 7 = 4]

9-60

TEST continued (based on the table of 9-59).

2. The Season, Temperature, and Humidity sections, in turn, use ____ + ____ + ____, for a total of ____ spaces.
   a. If the columns are blocked under the 48-space table title, there remain for ICs ____ spaces.
   b. For about twice as much space after the unbraced head as between the braced heads, the braced heads should be separated by ____ spaces, and after column 1 there will be ___ spaces.
   c. The first braced head will start under _____ (what letter?) of _____ (what title word?).

[Test continued in the next frame]

2. 6
11
11
28

a. 20 (48 - 28)

b. 7 (x + xx = 3x; if 3x = 20, x = 7)

13 (20 - 7)

c. final e of Temperature

(the 20th space in the title--with 6 + 13 = 19 blank spaces to the left of it)

9-61

TEST continued (see preceding two frames).

3. The High of column 4 will start under the ____ of _____ (what title word?).
4. The underscore below the last braced head is ____ spaces wide.
5. If there is triple spacing below the title and double spacing thereafter, the table uses ____ lines. If centered on a ½-sheet, it would start on line ____.

[End of subsection on blocked columns]

3. h (of) Highs
4. 11 (High + 4 + Low)
5. 10

   12 [½ of (33 - 10), + 1 = ½ of 23, + 1 = 11 + 1 = 12]

9-62

An occasional footnote may be shown by a * (star or asterisk), and a second footnote by ** (double star). But it is better to number footnotes serially* (1, 2, 3, . . ., etc.) or to letter them serially (a, b, c, . . ., etc.).

In tables that contain numbers, serial lettering is preferred to serial numbering. Mark the first table footnote with a raised a, the second one with a raised ____, the third one with one with a raised ____, and so on.

*Serially means in a series--in one-after-the-other order.

9-63

BRANCH OFFICE SALES

Office	Sales[a]
New York	8.5[b]
Boston	6.1[c]

[a] In millions of dollars.

[b] Gross

[c] Net

Footnote signs are raised a _____ (full/½) line.

To separate footnotes from the body, a single space below the last row of the body, type 10 _____.

Footnotes are typed in _____ (one/separate) paragraphs.

Each footnote is _____ (single/double) spaced.

Between footnotes, use _____ (single/double) spacing.

Each footnote is indented 3 or 5 spaces, like a _____.

9-64

In the table of Frame 9-63 (refer to it), does any footnote extend beyond the right-hand edge of the table? _____

1 Boston
2 _____
3
4 [a] In millions
5 of dollars
6
7 [b] Gross

Notice the line count at the left. Do the blank line after Boston and the 10 underscores count as separate lines?

_____

With the vertical spacing as shown in Frame 9-63 (refer to it), the entire table uses ____ lines. If centered on a ½-sheet, it would start on line ____; on a full sheet, on line ____.

b

c

½

underscores

separate

single

double

paragraph

no

no

16

9 [½ of (33 - 16), + 1 = ½ of 17, + 1 = 8 + 1 = 9]

26 [½ of (66 - 16), + 1 = ½ of 50, + 1 = 25 + 1 = 26]

9-65

Now a little TEST.

SOME 1969 NOBEL PRIZE WINNERS

Samuel Beckett[1]	Literature
ILO	Peace
Murray Gell-Mann[2]	Physics

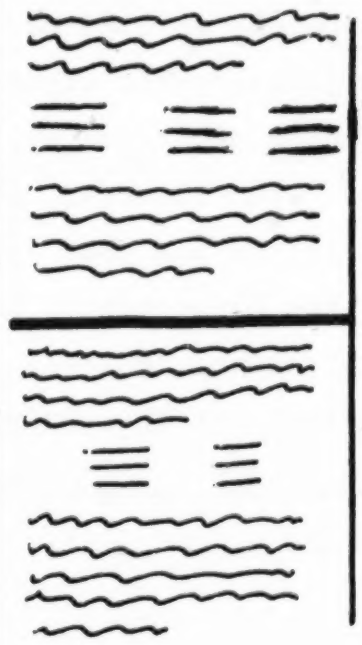
[1] Born in Ireland, but has lived mostly in France.

[2] American

With vertical spacing as at the left, the table is ____ lines long. Without the footnotes, it would be ____ lines long. Centered on a ½-sheet, the table (with footnotes) would start on line ____.

[End of subsection on table footnotes]

9-66



The wavy lines at the left represent lines of typing in the body of a letter. The short straight lines are the rows of a table.

Depending on how wide the columns are in relation to the length of the WL (writing line) in the letter, the outside columns of the table could be blocked at the letter margins, as sketched in the _____ example, or columns could (upper/lower)

be indented from the letter margins, as in the _____ example. (upper/lower)

14

8

10 [½ of (33 - 14), + 1 = ½ of 19, + 1 = 9 + 1 = 10]

9-67

upper

lower

Usually, but not always, tables in letters are quite short (not many rows). Also, they often do not have titles--because the earlier part of the letter describes what is in the table. Sometimes, there are not even column headings. For these reasons (but mostly to save space), table rows are often typed in single spacing--but you do double space after CHs, if there are any. In other words, when a letter contains a table, its rows _____ be single spaced. If (may/must)

there is enough room, table rows should be _____ (single/double)

spaced.

9-68

may
double

You always double space between paragraphs. That is, each paragraph is separated from the next one by ____ blank line(s). A table in a letter is treated like a paragraph. That is, above the table and below the table you leave ____ blank line(s).

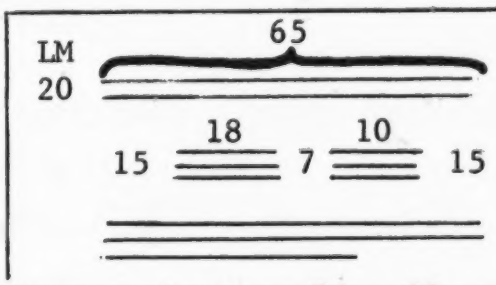
9-69

1
1

If it is obvious at a glance that a table--including IC space--will easily fit within the letter margins, then it can be planned and typed by the backspace method in the usual way. From 51 or 42, which are the _____ points for elite and pica type, just backspace (1 for 2): first for the typed matter in the columns, then for the IC space. Where the backspacing ends is where the _____ (which?) column begins. At that point you can either set _____ or temporarily reset the _____.

9-70

center (or mid)
first (or left-hand)
a tab stop
left margin



If you prefer arithmetic planning to backspacing, remember that the available table space is not the width of the page (102 elite or 85 pica spaces), but the width of the WL* in the letter. Above, the WL = 85 - 20 = ____ spaces. The table uses 18 + 7 + 10 = ____ spaces. Remaining for table margins are 65 - ____ = ____ spaces, putting, in each table margin, ____ spaces. With the letter LM at 20, the table LM is at 20 + ____ = ____. Set a tab stop for column 2 at ____. Here's the check: 15 + 18 + 7 + 10 + 15 = ____.

*WL means Writing Line--the number of spaces between the left and right margins.

65

35

(65 -) 35 = 30

15 (½ of 30)

(20 +) 15 = 35

60 (35 + 18 + 7)

65 (the WL of the letter)

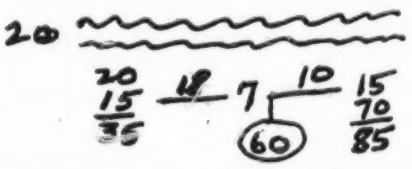
9-71

As illustrated in the last sentence of the preceding frame, one check of your table plan is that:

LM + typed matter + IC space + RM = WL.

as in: 15 + (18 + 10) + 7 + 15 = 65

Also carry out a right-end check, as shown below. Notice that: beginning of last column (60) + last column (10) + table RM (15) = ____, which is the end point of the _____.
(table/letter WL)



85

letter WL

9-72

When a table will obviously fit within letter margins, you can use any reasonable amount of IC space. But if the table is likely to be a "tight squeeze," you have to figure out how much IC space is available. Just subtract the typed matter in the table from the WL and divide the remainder among the ICs.

Assume letter margins that result in WL = 60 spaces and 4 table columns of 18, 12, 8, and 10 spaces. The typed matter in the table totals ____ spaces. Remaining for ICs are ____ spaces. Since, in a 4-column table, there are ____ ICs, each IC should be ____ spaces wide.

48

12 (60 - 48)

3

4 (12 ÷ 3)

9-73

Sometimes, the space available for ICs cannot be divided equally among the ICs. To permit equal ICs, you could extend the table a space or two beyond the right-hand margin of the letter or end it a space or two short of the right margin. Or, instead, allow the ICs to differ by 1 space. For example, if 14 IC spaces have to be divided among 3 ICs, the ICs would be 5, 5, and ____ spaces wide. If 17 spaces were to be divided among 3 ICs, the IC widths would be ____, ____, and ____.

9-74

4

6, 6, (and) 5
(any order)

The preceding example results in a table that is blocked under the WL of the letter. Such tables are planned like those that are blocked under a table title (see Frames 51 through 61). Use as the maximum width of the table (including IC space) the width of the WL in the letter. But do not type tables in that way unless you need all the space available. For example, with WL = 60 and two table columns of 10 spaces each, the table _____ (should/should not) be blocked. Otherwise, there will be too much space _____ (in the margins/between columns).

9-75

should not

between columns

In letters, you may remember, the right margin is set 3 spaces past the point at which you want the WL to end. A SHORT pica letter would have RM set at 68, but you would probably end your WL at 68 - 3 = ____. With LM at 20, the WL is _____ (45/48) spaces wide. For a MEDIUM-length pica letter, consider its WL to equal 10 more or _____ (how many?) spaces wide. For a LONG letter, add another 10 spaces to the WL, making it ____ spaces wide. If you use pica type, memorize the three WLs. For short, medium, and long letters, they are ____, ____, and ____ spaces wide.

9-76

65

45

55

65

45, 55, (and) 65

At least a few lines in the body of a letter would probably be typed all the way out to the RM. For the convenience of using round numbers for elite WLs (when a table is to be blocked below the WL), consider the WL to run from LM to RM. With elite margins for a short letter at 25 and 80, the WL is ____ spaces long. For medium-length letters, the WL is 10 spaces longer, or ____ spaces. For long letters, add another 10, making the WL ____ spaces long. If you use elite type, memorize the three WLs. For short, medium, and long letters, they are ____, ____, and ____ spaces long.

55 (80 - 25)
65
75
55, 65, (and) 75

9-77

Side margins in letters usually depend on the number of wo[illegible] in the _____ of the letter. But if a wide table will not fit within the usual letter margins, simply reduce the letter margins and make the WL longer. For example, assume a letter whose pica margins would ordinarily be set at 20 and 65, but which contains a table that requires 55 spaces. For that letter, side margins of ____ and ____ should be set. In letters with tables, you should check the table width _____ you set side margins (before/after) for the letter.

body (or message)
15 (and) 70
before

9-78

Now a little TEST.

Assume a SHORT letter that includes the table below (IC = 5).

Leave	Flight No.	Depart
New York	AA 416	3:00 p.m.
Minneapolis	NW 86	5:30 p.m.

1. Including IC space, the total width of the table = ____ spaces. If you center it by backspacing, you will backspace ____ times, and the table LM (for the size of type on your typewriter) will be at ____ on the carriage scale. The CH for column 2 will start at ____.

[Test continued in the next frame.]

1. 40 (11 + 5 + 10 + 5 + 9)
20
31 (elite: 51 - 20)
22 (pica: 42 - 20)

(elite) 47
[31 + Minneapolis + 5 IC spaces = 31 + 11 + 5 = 47]

(pica) 38
[22 + Minneapolis + 5 IC spaces = 22 + 11 + 5 = 38]

9-79

TEST continued (short letter--your size of type).

In column 1 of the table of 9-78, change Minneapolis to Detroit and prepare an arithmetic plan for the table just like the longhand one in Frame 9-71 (refer to it).

2. Using letter margins for a short letter in your size of type, your plan should show that the table LM should be set at ____ and that tab stops for columns 2 and 3 should be set at ____ and ____.

[Test continued in the next frame.]

Elite (margins 25, 80)

34 [(55 - 37)/2 = 9; 25 + 9 = 34]

47 (and) 62

25 — 8 — 5 — 10 — 5 — 9 — 9

9: 47 62 71

34 80

Pica (margins 20, 65)

24 [(45 - 37)/2 = 4; 20 + 4 = 24]

37 (and) 52

20 — 8 — 5 — 10 — 5 — 9 — 4

4: 37 52 61

24 65

9-80

TEST continued.

Assume the table below blocked under the WL of a short letter in your size of type.

From	Airport	Flight No.	Depart
New York	La Guardia	American 416	3:00 p.m.
Chicago	O'Hare	United 86	5:15 p.m.

3. If you count the strokes in the typed matter of the table and subtract from the WL of the letter, you will find that the space available for ICs totals ____. The 3 ICs would contain ____, ____, and ____ spaces. The table LM would be at ____, and the tab stop for column 2 would be at ____.

[End of subsection on letters with tables]

Elite (margins 25, 80)

16 [55 - (8 + 10 + 12 + 9) = 16]

5, 5, 6 (any order)

25 (same as letter LM)

38 (or 39) [25 + 8 + 5 (or 6)]

Pica (margins 20, 65)

6 [45 - (8 + 10 + 12 + 9) = 6]

2, 2, 2

20 (same as letter LM)

30 (20 + 8 + 2)

9-81

A table in a report or manuscript is typed just like a table in a letter. Like an ordinary paragraph it is preceded and followed by ____ blank line(s). If a report or manuscript (abbreviated ms.; plural is mss.) uses equal side margins, then the center point for table typing is the horizontal center of the page. On standard size paper, the center point on your typewriter is at ____.

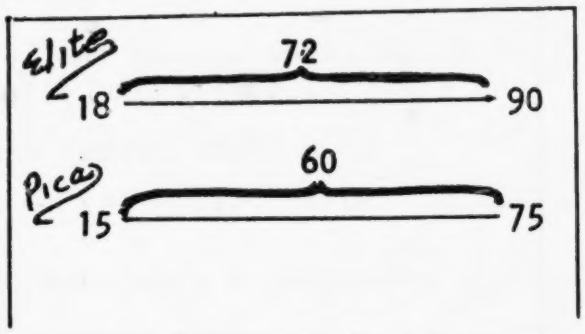
1

51 (elite)
42 (pica)

9-82

It is quite common to bind longer reports at the left side (by staples, for example) or to enclose them in a binder or folder--just as the pages of a book are bound within hard covers. If so, in order not to hide the left edges of the typing, side-bound mss. use a left margin that is wider than the right margin. With a 1" right margin, the left margin would be 1½" or 2". For a 1½" LM on your typewriter set the LM at ____; for a 2" LM, set it at ____.

9-83



In reports, the horizontal center for table typing is not the center of the page, but the center of the writing line. As shown at the left, with elite margins (in a side-bound ms.) of 18 and 90, the WL (writing line) is 90 - 18 = ____ spaces long. Its center is at 18 + ½ of 72, which equals ____. In the same way, the center of the pica WL is at 15 + ½ of ____, which equals ____. With side margins set as above, if you center tables by the backspace method, in elite type you would start backspacing from ____; in pica, from ____.

18 (elite)
15 (pica)

24 (elite)
20 (pica)

9-84

Assume a side-bound elite ms. with LM = 2" and RM = 1". The WL has 8½" minus 3" = 5½" or 66 spaces. If a table in such a report were simple enough to center by backspacing, you would start to backspace from LM + half the spaces in the WL; that is, from ____ on the carriage scale. In pica type (10 spaces to the inch), with LM = 2" and RM = 1", the WL would be 8½" - 3" = ____ inches or ____ spaces long. Its midpoint would be at ____ on the carriage scale.

72

54 (18 + 36)

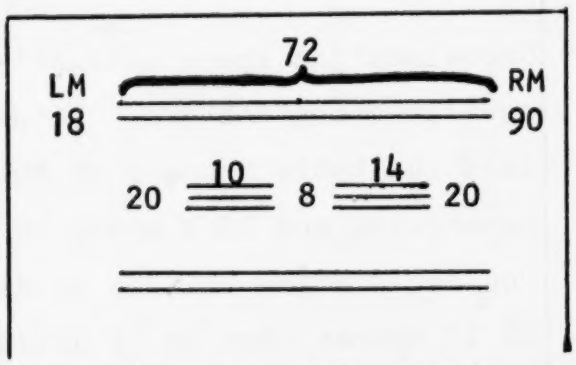
60

45 (15 + 30)

54

45

9-85



In a report, the available table space is not the width of the page (102 elite or 85 pica), but the spaces in the WL. At the left, the WL = ____ spaces, and the 2-column table uses 10 + 8 + 14 = ____ spaces.

Remaining for table margins are 72 - ____ = ____ spaces. Each of the two table margins therefore = ____ spaces. Since the report LM is at 18, the table LM would be set at 18 + ____ = ____. A tab stop for column 2 would be set at ____. Check: 20 + 10 + 8 + 14 + 20 = ____.

57 (24 + ½ of 66)

5½

55 (5½ x 10)

47 (20 + ½ of 55)

72
32
(72 -) 32 = 40
20 (½ of 40)
(18 +) 20 = 38
56 (38 + 10 + 8)
72

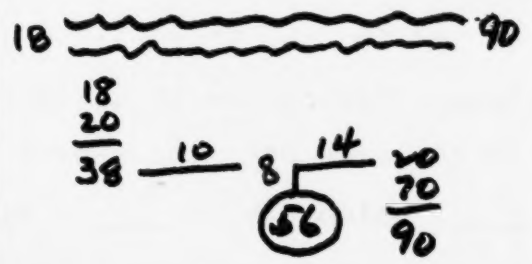
9-86

As illustrated in the last sentence of the preceding frame, one check of your table plan is that:

LM + typed matter + IC space + RM = WL

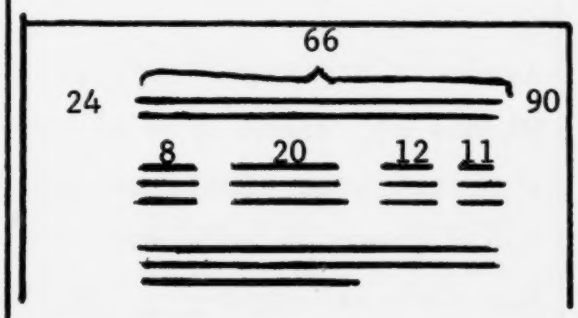
as in: 20 + (10 + 14) + 8 + 20 = 72

Also carry out a right-end check, as shown below. Notice that: beginning of last column (56) + last column (14) + table RM (20) = ____, which is the end point of the ____.
(table/report WL)



90
report WL

9-87



Sometimes a table is wide enough to use up the full width of the WL in the report. If so, you must determine in advance how much space is available for ICs; then block the table.

Above, a 2" LM and a 1" RM lead to an elite WL of ____ spaces. The typed matter in the columns uses ____ spaces. Remaining for ICs are ____ spaces. With 3 ICs, each one would contain ____ spaces. Column 1 would start at ____; column 2 would start at ____.

66 (90 - 24)
51 (8 + 20 + 12 + 11)
15 (66 - 51)
5 (15 ÷ 3)
24 (the report LM)
37 (24 + 8 + 5)

9-88

Sometimes the space available for ICs cannot be divided equally among the ICs. To permit equal ICs, you could extend the table a space or two beyond the right margin of the report--or end it a space or two short of the RM. Instead, you could allow the ICs to differ by 1 space. For example, if 11 spaces have to be divided among 3 ICs, the ICs would be 4, 4, and ____. If 16 spaces were to be divided among 3 ICs, the IC widths would be ____, ____, and ____.

3

5, 5, 6 (any order)

9-89

Technical or professional reports often have several (or many) tables. For that reason it is customary to number tables serially (in 1-2-3 order)--using arabic (not Roman) numbers. The table number is usually centered a double space above the table title. Compare:

Table 12 AVERAGE TYPING SPEED	Table XII. AVERAGE TYPING SPEED

The preferred way to label tables is shown in the example at the _____, above.
(left/right)

left

9-90

Now a little TEST.

Assume a report with LM of 1½" and RM of 1" (using the size of type on your typewriter). Also assume IC = 6 in the table below, included in that report.

Table 3

EFFICIENCY RATINGS OF EMPLOYEES

Name	Rating	With Firm
Arthur Henry	Excellent	8 years
William Goldman	Very good	6 years

1. The report WL is ____ spaces long.

   a. The center point of the WL is at ____ on the scale.

2. The table, including IC space, uses ____ spaces.

[Test continued in the next frame]

1. (Elite) 72 (90 - 18)
   (Pica) 60 (75 - 15)

   a. (Elite) 54 [18 + ½ of (90 - 18)]

      (Pica) 45 [15 + ½ of (75 - 15)]

2. 45 (15 + 6 + 9 + 6 + 9)

9-91

TEST continued (based on the table of 9-90).

3. To center the table of 9-90 by backspace methods, you would backspace (from the center point of the WL at ____) a total of ____ times--resulting in a table LM at ____. The second column would begin at ____.

4. In column 1 of the table change William Goldman to William Gold and change the IC from 6 to 5. Write an arithmetic plan for the table like that of Frame 9-86.

   Your plan should show the table LM set at ____, and tab stops for columns 2 and 3 set at ____ and ____.

5. The sixth table in a series is preferably numbered _____.
   (6/VI)

[End of subsection on tables in side-bound reports]

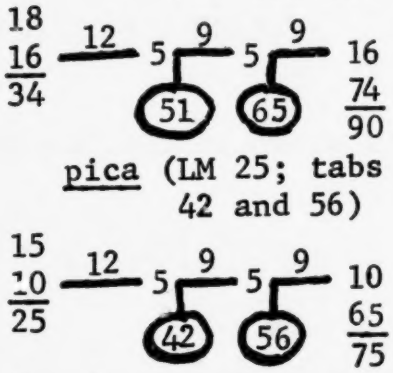
3. 54 (elite); 45 (pica)

22 (½ of 45)

pica 23 (45 - 22)
elite 32 (54 - 22)

pica 44 (23 + 15 + 6)
elite 53 (32 + 15 + 6)

4. elite (LM 34; tabs 51 and 65)



pica (LM 25; tabs 42 and 56)

5. 6

19 (50 - 31)

6, 6, 7 (any order)

9-92

In real life, it is the typist who must decide how much space to leave between columns in a table. If the body of a table is to be blocked under its title (or under the writing line of a letter or report), arithmetic is used to determine in advance the IC space. For example, if a 4-column table whose typed matter totals 31 spaces is to be blocked under a 50-space table title, there remain for ICs ____ spaces. These would be divided among the 3 ICs as follows: ____, ____, and ____.

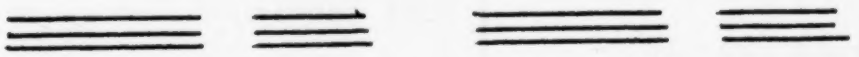
9-93

GOVERNMENT OFFICIALS--1970

State	Governor		Senior Senator	
New York	Rockefeller	Rep.	Javits	Rep.
Maine	Curtis	Dem.	Smith	Rep.
.....	..	....	..	

The information above is grouped into two pairs of columns, more widely separated from the "State" column. In tables that require unequal IC space, use a "2 to 1" rule. Whatever the narrowest IC space is, double it for the next wider space and double it again for still wider space. As shown by the dots above, the narrowest IC uses ____ spaces. Between the "Governor" and "Senator" columns are ____ spaces and, after the "State" column, ____ spaces.

9-94



Following a 2-to-1 rule for the table above, if 4 spaces are left between columns 1 and 2, between columns 3 and 4 leave ____ spaces and, between columns 2 and 3, ____ spaces. If you centered the table sketched above by backspace methods, after backspacing for the typed matter, for the total IC space you would backspace another ____ times.

2
4
8

9-95

In tables that require unequal spacing, follow the 2-to-1 rule whenever there is enough space to do so. Otherwise, reduce the difference in spaces, but try to assign a difference that the eye can see. Compare:

A) ———— 12 —— 3 —— 6 —— 3 ——

B) ———— 8 —— 3 —— 5 —— 3 ——

Strict 2-to-1 spacing is shown in example ____, above.
(A/B)

Reduced (but still different) IC spacing is illustrated in example ____.
(A/B)

4

8

8 [(4 + 8 + 4) ÷ 2 = 16/2 = 8]

9-96

In tables that are blocked (under the table title or under the writing line of a letter or report), to determine the IC space subtract the typed matter in the table from the width of the title or WL and divide the difference among the ICs. In a table with columns of 8-12-20 spaces blocked under a 50-space title, each IC should contain ____ spaces.

If unequal IC spacing is desired, make it as close as possible to 2-to-1; x spaces and xx spaces. With 50 - (8 + 12 + 20) = 10 IC spaces to be divided by three x's, x = 10 ÷ 3 = 3. Use 3 spaces between columns 2 and 3 and, between columns 1 and 2, 10 - 3 = ____ spaces. With 20 IC spaces to be divided: ———— xxxx ———— xx ——— x ———— leave, between columns 1 and 2, ____ spaces.

8	xx	12	x	20

A

B

9-97

A table that is not blocked (under a table title, for example) and that does not require unequal IC spacing can use any reasonable IC space. Often, about a half-inch between columns will be about right. A half-inch equals ____ elite or ____ pica spaces.

There is a slight advantage to using an even number of IC spaces. Then, no matter how many ICs there are, the total will always be an even number--avoiding a leftover space. As between a 5- or a 6-space IC, it is more convenient to use ____; as between an IC of 7 or 8, use ____.

5 [50 - (8 + 12 + 20)] ÷ 2 = (50 - 40)/2 = 10/2 = 5]

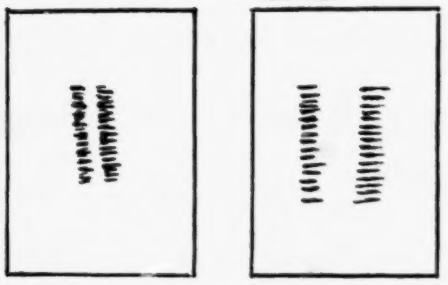
7

11 [xxxx + xx + x = 7x; if 7x = 20, x = 20/7 = 3, and xx = 6--for a total so far of 9. With 20 IC spaces available, there remain 20 - 9 = 11 spaces to put between columns 1 and 2]

6 (elite)
5 (pica)
6
8

9-98

Of course, in a table with many or wide columns, you might not be able to leave as much as a half-inch, or ____ spaces, between columns. On the other hand, in a narrow 2-column table typed on a full 8½" sheet of standard-size paper, the side margins would be much too wide if you left, between columns, only ____ spaces.



The columns are crowded too close together in the illustration at the _____. (left/right)

5 or 6
5 or 6
left

9-99

A 2-column table with very wide columns could require more horizontal space than a 5-column table with very narrow columns. More often, the more columns there are, the wider the table is likely to be. Therefore, it is not sensible to use the same IC space in all tables. In general, the fewer the columns, the _____ the IC space. If an IC (less/more)

of 10 spaces is used in a 2-column table, in a 3-column table you should probably use between columns _____ than 10 spaces. (more/less)

more
less

9-100

There will sometimes be exceptions (when the columns are unusually wide or unusually narrow), but the spacing listed in the table below will often lead to attractive work.

No. of Columns	IC Space Between Columns
2	10-12
3	6-8
4	4-6
5	3-4
6+	2-4

If the table at the left were to be typed on full 8½" paper, between columns there should be _____ spaces. For the table of Frame 9-90 (refer to it), use an IC of _____ spaces.

9-101

10-12 (in a 2-column table)
6-8 (in a 3-column table)

Of course you know that in tables (and in all typing) unless there is no other way to fit the materials across the page, side margins should not be less than 1 inch (on each side). A 3-column table would ordinarily use an IC of ____ spaces. But if the columns were very wide and you found that leaving that amount of IC space resulted in a left margin (pica or elite) at 8 on the carriage scale, what should you do? _____.

When you have selected an IC for a table that looks quite wide, _____. a. Check what the LM will be before you type
(a/b) b. Start to type and hope for the best

9-102

6-8

reduce the IC space
(or equivalent wording)

a

Columns should not be so far apart that the eye "loses its place" as it reads across a table row. Therefore, avoid leaving more than about 10-12 spaces between columns. If more than that is unavoidable, use "leaders"--a series of spaced periods that "lead" the eye across a gap, as in the table of contents for this section (Frame 9-00, refer to it). In Frame 9-00, the longest leader is the one after the subsection entitled _____.

Notice that the spaced periods _____ lined up vertically.
(are/are not)

9-103

Braced headings
(or Table footnotes)

are

To line up leaders vertically, after you type the last word in the first item, space once. Then look at the carriage scale to see whether you are at an odd- or at an even-numbered space. Whichever it is, start each leader in a space that is also odd (or even). But be sure to leave at least 1 blank space before the first period. Then alternate periods with space-bar taps--stopping 2 or 3 spaces short of the column after the leaders.

Horizontal centering at the typewriter 19
Table typing in reports 31

After striking the s of reports in line 2, above, your carriage is at 28 on the scale. Your first period should start at _____.
(28/29/30)

30 (the first even-numbered space after leaving 1 blank space)

9-104

Now a little TEST.

1. If a 5-column table whose typed matter totals 48 spaces is to be blocked under a 62-space table title, the IC widths will be ____, ____, ____, and ____.
2. If unequal IC spacing is in a 2-to-1 ratio, if the narrowest IC is 5 spaces wide, the next wider IC will have ____ spaces.
3. With exceptions (for very wide or very narrow columns), a 3-column table should use an IC of ____ space; a 4-column table, an IC of ____ spaces.

(Test continued in the next frame)

9-105

TEST continued.

1. 3, 3, 4, 4 (any order)
2. 10
3. 6-8

   4-6

4. To block the table sketched below under a 45-space title

   10 xx 8 x 6 x 6

   between columns 1 and 2, leave ____ spaces.
5. The row of periods used to carry the eye across a wide IC space is called a(n) _____. After each period there is _____.
   (another period/a space)

[End of subsection on IC spacing]

4. 7
   [45 - (10 + 8 + 6 + 6) = 45 - 30 = 15. xx + x + x = 4x, and x = 15/4 = 4. With each of two x's = 4, 8 of the 15 IC spaces are used up. There remain (to put between columns 1 and 2) 15 - 8 = 7 spaces.]
5. leader

   a space

When you complete this section, you should know:

1. How to center vertically business letters of various lengths--according to each of two different letter arrangements:
   a. Distance from top of page to date varies with letter length
   b. Distance from date to inside address varies with letter length

10-0

Section 10

Vertical Margins for Business Letters

34 Frames

10-1

An attractively arranged business letter is one whose horizontal and vertical margins are appropriate to the length of the letter. The longer the letter, the _____ (more/less) space it will take on the page. The more space the letter takes on the page, the _____ (wider/narrower) the margins.

more

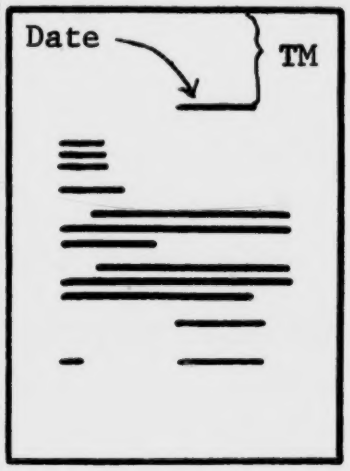
narrower

10-2

The attractiveness of the business letters you type will depend, in part, on whether you make the right decisions about how much space to leave in the _____.

margins

10-3



You have to make decisions about the side, or horizontal, margins. You also have to make decisions about the top and bottom, or _____, margins. In a letter, the first thing typed is the date. The TM (top margin) in a letter, as illustrated at the left, is the distance from the top of the page to the _____.

vertical

date

10-4

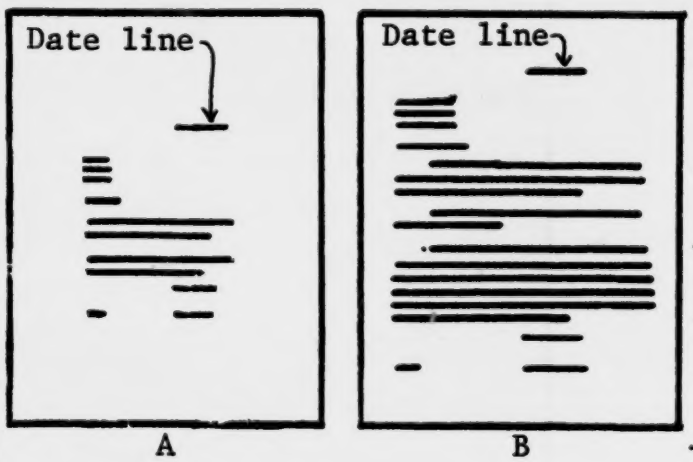
In connection with vertical margins, there are two basic letter arrangements. In one of them, the date is considered part of the letter. Its distance from the top of the page changes with the length of the letter. The date line "moves" up or down--according to how long the letter is. It can therefore be called a "moving date line."*

As compared to a short letter, a longer letter takes more space on the page; therefore, its date would be typed _____ on the page.
(higher/lower)

*In the other letter arrangement, the date is typed a fixed distance from the top of the page--regardless of the length of the letter. "Fixed" date lines are discussed in Frames 21 to 30 later in this section.

higher

10-5



The longer of the two letters at the left is letter _____. Therefore its date line is _____ on the
(A/B) (higher/lower)
page. The letter with the wider margins is _____, the one that is _____.
(A/B) (shorter/longer)

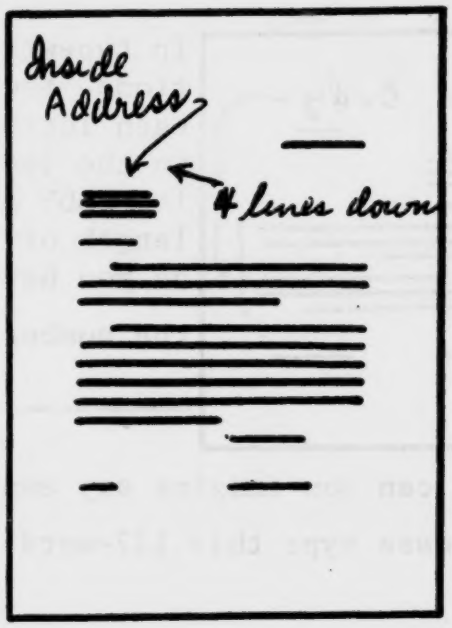
B

higher

A

shorter

10-6



A "moving date line" is one whose distance from the top of the page depends on the _____ of the letter.

Examine the sketch at the left. Notice that after the date (no matter how long the letter is), in order to reach the next part of the letter, called the _____, you space down ____ times.

length

inside address

4

10-7

In a "moving date line" letter style, after you type the date, you space down ____ times to the _____. As the length of the letter changes, the position of the date line _____ change, whereas the number of (does/does not)

line spaces after the date _____ change. (does/does not)

4

inside address

does

does not

10-8

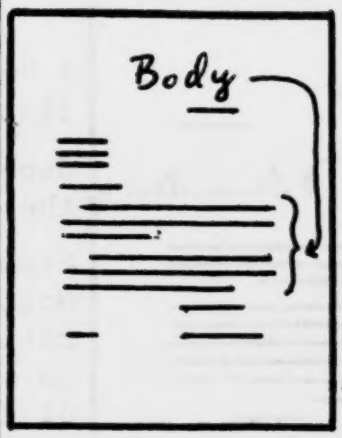
In an ordinary letter, the amount of space it will take on the page depends almost entirely on how many WORDS are in the body (or message) of the letter. As compared to a 150-word letter, a 120-word letter would take _____ (more/less)

space on the page. Therefore, its date line would be _____ on the page. In letters of any length, (higher/lower)

after you type the date you space down ____ times and then type the _____.

less
lower
4
inside address

10-9



In typewriting textbooks, with few exceptions, there is a word count alongside each letter. It shows how many WORDS are in the letter (a) as a whole and (b) in its BODY or MESSAGE. To determine the length of a letter in a typing textbook, do you have to count or guess or estimate the number of _____ in the body or _____ of the letter? _____ (yes/no)

But can you imagine any employer asking his typist to: "Please type this 137-word letter for me"? _____ (yes/no)

words
message
no
no

10-10

In another section of this program, estimating the length of a letter (and other kinds of typed material) will be discussed. For now, whether you estimate letter length by yourself or use the word count in typing textbooks, you must know how many words are in the _____ of a letter--because the length of the letter determines the location of the _____.

body
(or message)
date

10-11

There is a simple rule that tells you how many lines from the top edge to type the date. The location of the date depends on the number of _____ in the _____ of the letter. Here's the rule.

RULE: For a letter of up to 60 words, put the date on line 22. For each additional 20 words or fraction of 20 words, raise the date 1 line.

If words = 60 or less, date line = 22. For 61 to 80 words, the date goes up 1 line to line 21. For 81-100 words, go up another line to line ____; for 101-120 words, place the date on line ____, and so on.

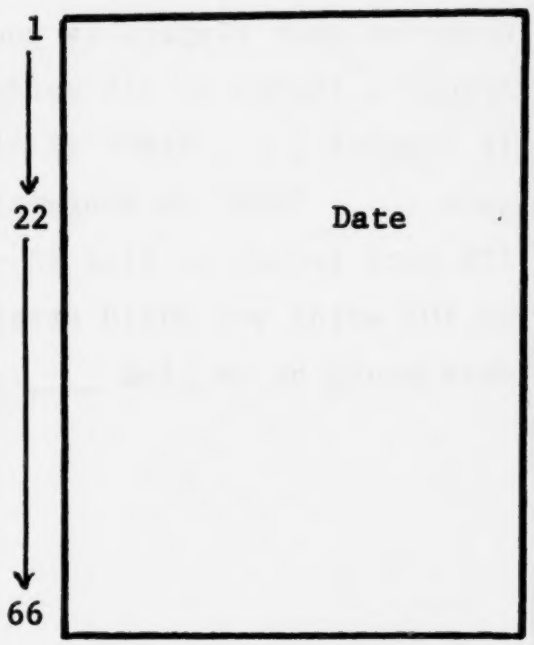
words

body
(or message)

20

19

10-12



For a letter of 60 words or less in the message, the distance from the top of the page to the date is ____ lines. The date is raised 1 line for each additional ____ words or fraction of ____ words.

22

20

20

10-13

For a letter of longer than 60 words, we want to know how many lines above line 22 to type the date. We want to know how many lines to _____ line 22.
(add to/subtract from)

subtract from

10-14

Assume a letter whose message contains 96 words. To locate its date line, count on your fingers. Count by 20's, starting at 60, until you pass 96. Start with a closed fist and straighten a finger for each 20, like this: "60" . . . "80" (1 finger) . . . "100" (2 fingers). Subtract the number of straightened fingers from the line number on which a letter of up to 60 words is placed; that is, subtract from ____. For the 96-word letter, the date would be placed on line ____ - 2 = ____.

22

22 (- 2) = 20

10-15

Count on your fingers as you read this frame. Assume a letter of 128 words. Count: "60" . . . "80" (1 finger) . . . "100" (2 fingers) . . . "120" (3 fingers . . . "140" (4 fingers). Place the date for that 128-word letter on line 22 - 4 = line ____. For a letter of 103 words you would straighten ____ fingers, and its date would be on line ____.

18

3

19

10-16

To determine the location of the date line, start your count at ____ and point or straighten your first finger when you reach ____. For a 106-word letter you would stop your count at _____. That is--using the 20-word group
(100/120)
101-120 as an example--you stop your count when you reach the _____ border of the group that contains the
(lower/upper)
number of words in the _____ of the letter.

60

80

120

upper

body
(or message)

10-17

All you have to remember to locate a moving date line in a letter is:

1. Start to count at ____.
2. Count by ___'s, straightening a finger for each ____.
3. Subtract the number of straightened fingers from the line number on which the date of a letter of up to 60 words would be located; that is, subtract from ____.

The count of course applies to the number of _____ in the _____ of a letter.

1. 60
2. 20
   20
3. 22

words

body
(or message)

10-18

Count on your fingers and fill in the blanks.

	Words in Body	No. of Fingers	Date Line
Example	157	5	17
	112	____	____
	69	____	____
	132	____	____
	84	____	____
	116	____	____
	92	____	____

(112) 3 19
(69) 1 21
(132) 4 18
(84) 2 20
(116) 3 19
(92) 2 20

10-19

Don't fall asleep in counting by 20's. And don't take ages to space down to the date line. Line up the top edge of your paper with the edge of the scale--so that if you were to strike a key, it would just miss the top edge of the paper. Then set your line space regulator for triple spacing and space down rapidly, counting by 3's, (3, 6, 9, 12, etc.), until you are as close as possible to the desired line. Then reset for single spacing and space down the final line or two.

To reach line 19, use ____ triple spaces + ____ single space(s). To reach line 20, use ____ triple spaces + ____ single space(s). To reach line 18, use ____ triple spaces + ____ single space(s).

6 (+) 1
6 (+) 2
6 (+) 0

10-20

Fill in the blanks below.

	Date Line	Number of Carriage Returns from the Top Edge: Triple	+ Single
Example	14	4	2
	17	____	____
	21	____	____
	16	____	____
	19	____	____

[This frame makes a convenient stopping point.]

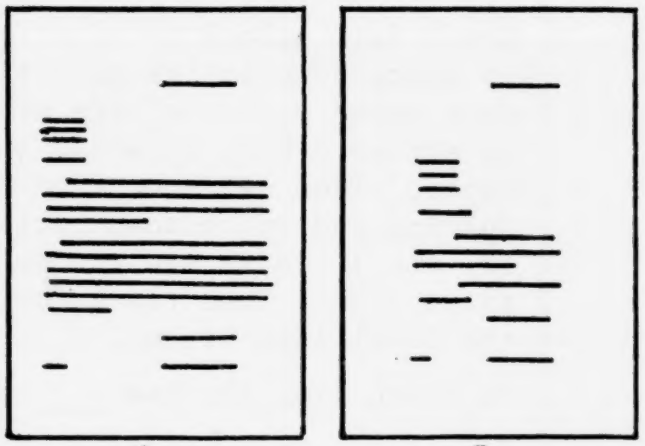
(17) 5 + 2
(21) 7 + 0
(16) 5 + 1
(19) 6 + 1

10-21

The second of the two basic letter arrangements uses a "fixed date line." In it, regardless of the length of the letter, the date is placed 14 lines from the top edge of the page. What varies with letter length is the distance between the date and the next part of the letter-- the _____.

inside address

10-22



In the two letters at the left, the distance from top-of-page to the date line _____ the same.
(is/is not)

But because the longer of the two letters at the left is _____, in it,
(A/B)
the distance from date to inside address is _____.
(less/greater)

is
A
less

10-23

A "fixed date" is on the 14th line from the top edge of the paper. From there, the number of line spaces down to the inside address depends on the number of _____ in the _____ of the letter. If some letter uses 9 line spaces between date and inside address, a shorter letter will use _____ line spaces. As the length of a
(fewer/more)
letter increases, the distance between date and inside address _____.
(increases/decreases)

words

body
(or message)

more

decreases

10-24

For a fixed date line, the rule for the number of times to space down after the date is identical in its basis to the rule for a moving date line.

RULE: For a letter of up to 60 words, use 12 line spaces between date and inside address. For each additional 20 words or fraction of 20 words, reduce the number of line spaces by 1.

If words (in body) = 60 or less, use 12 line spaces after the date. For 61 to 80 words, use 11 line spaces; for 81-100 words, use ____ line spaces; for 101-120 words, use ____ line spaces, and so on.

10

9

10-25

No matter how many words are in the body of a letter, a "fixed" date line is on line ____. For a letter of up to 60 words, space down ____ lines after the date. For each additional ____ words or fraction of ____ words, space down 1 line _____.
(more/less)

14

12

20

20

less

10-26

Assume a letter whose message contains 84 words. Use the same counting technique that was described for letters with a moving date line. That is, begin at 60 and count by 20's until you pass 84. Start with a closed fist and straighten a finger for each 20. For example: "60" . . . "80" (1 finger) . . . "100" (2 fingers). Subtract the number of fingers from the number of line spaces between date and inside address used for a 60-word letter; that is, from ____. For the 84-word letter, after typing the date on line ____, you would space down ____ - 2 = ____ times.

12
14
12 (- 2) = 10

10-27

Count on your fingers as you read this frame.
Assume a letter of 144 words. Count: "60" . . . "80" (1 finger) . . . "100" (2 fingers) . . . "120" (3 fingers) . . . "140" (4 fingers) . . . "160" (5 fingers). After typing the date on line ____, for the 144-word letter space down 12 - 5 = 7 times to the inside address. For a letter of 117 words, you would straighten ____ fingers and space down ____ times after the date.

14
3
9

10-28

Start your count at ____ and point or straighten your first finger when you reach ____. For a 128-word letter, you would stop your count at _____. That is--using the (120/140)
20-word group 121-140 as an example--you stop your count when you reach the _____ border of the group that (lower/upper)
includes the number of _____ in the _____ of the letter.

60
80
140
upper
words
body
(or message)

10-29

All you have to remember about fixed-date-line letters is:

1. Type the date on line ____.

To determine how many times to space down after the date:

2. Start to count at ____.
3. Count by ____'s, straightening a finger for each ____.
4. Subtract the number of fingers from the number of lines that would be used between date and inside address in a letter of up to 60 words; that is, subtract from _____.

The count of course applies to the number of _____ in the _____ of a letter.

1. 14
2. 60
3. 20
   20
4. 12

words

body
(or message)

10-30

Count on your fingers and fill in the blanks.

	Words in Body	No. of Line Spaces To Inside Address
Example	57	12
	117	____
	139	____
	66	____
	124	____
	92	____
	157	____

9
8
11
8
10
7

10-31

Both fixed date line and moving date line procedures are in common use. If you expect to get a job as a typist, it is a good idea to master both procedures, so that you can use the procedure preferred by your employer.

With a moving date line, the thing that changes with the length of the letter is _____ _____.

With a fixed date line, what changes is _____ _____.

date line position--
its distance from
the top of the page

distance between date
and inside address

(or equivalent answers)

10-32

The selection of letter margins (both vertical and horizontal) depends on the length of the letter. The procedures described here (and in the next section for side margins) are based on the average letter. They will not lead to perfect results for all letters.

Fortunately, you can lower a letter that turns out to be too high on the page by lowering the reference initials--the initials that identify (sometimes) the dictator or signer of the letter and (always) the person who _____ the letter.

typed

10-33

Before you type the reference initials (and while your letter is still in the typewriter) check your top and bottom margins. If they seem equal, type the reference initials on the same line as the typed signature or title of the writer of the letter. If the letter seems high, _____ the initials from 1 up to (but not more than) about 4 lines. The main thing is to check your vertical margins _____ you type the initials.
(raise/lower) (before/after)

lower
before

10-34

Now a little TEST.

1. For a letter of up to ____ words, a moving date is on line ____, and you space down ____ times after the date.
2. In a letter of 128 words, a moving date would be on line ____, and you would reach it by ____ triple spaces + ____ single space(s).
3. A fixed date is always on line ____.
4. For a fixed-date letter of up to ____ words, space down ____ times after the date; for a 98-word letter, space down ____ times.

1. 60
   22
   4
2. 18
   6
   0
3. 14
4. 60
   12
   10

When you complete this section you should know:

Where to set side margins for letters of various lengths--so that the resulting letter will be horizontally well placed on the page.

11-0

Section 11

Horizontal Margins for Business Letters

22 Frames

11-1

Vertical placement of a letter depends on letter length. Horizontal or side margins for a letter also depend on the number of _____ in the _____ of a letter.

words

body
(or message)

11-2

Vertical placement of a letter changes by 1 line for every 20 words in the body. Side margins or horizontal placement of business letters changes with every 100 words. That is: short letters are those with up to 100 words; medium length letters have up to 100 more words; that is from 101 to ____ words; long letters are those with more than ____ words.

200
200

11-3

For the purposes of horizontal placement, letters are considered to have three lengths: Short, _____, and _____. Short letters are those with up to _____ words. The next length includes those that contain from ____ to ____ words. Finally, there are letters that contain more than ____ words.

medium
long
100
101 (to) 200
200

11-4

In deciding on the horizontal placement or side margins for letters, consider what is called the writing line: the number of spaces between the left and right margins. If pica margins for some letter were set at 10 (left) and 75 (right), the writing line would be 75 - 10 = ____ spaces long. If elite margins for some letter were set at 25 (left) and 80 (right), that letter would have a 55-space _____.

65
writing line

11-5

Horizontally, you can think of a letter as consisting of:

LM (left margin) + writing line + RM (right margin).

0 ⟶ 85

LM | Writing Line (45) | RM

Those three items should total 85 pica or 102 elite spaces across the page.

If you use a pica writing line of 45 spaces, then 85 - 45 = ____ spaces remain to be divided equally between the two side margins. LM would be set at ____. Since LM should equal RM, the writing line (the lines of typing in the body of the letter) should end as close as possible to 85 - ____, which equals ____.

40
20
20
65

11-6

The preceding frame illustrates that:
side margins + writing line = total spaces across the page.
Some typists think of horizontal placement of letters in terms of the length of the writing line. Others prefer to think in terms of the width of the margins. In either case, the longer the letter, the _____ the writing line and the _____ the side margins.
(shorter/longer) (narrower/wider)

longer
narrower

11-7

Everything discussed so far applies equally to pica and elite typewriters. At this point it will be more convenient to discuss margin setting for the two sizes of type separately. Therefore, if your typewriter uses pica type, continue with this and the following frames. If your typewriter uses elite type, skip this and the next 8 frames and go NOW to Frame 11-16.

In pica type there are 10 spaces to the horizontal inch and--across paper that is 8½ inches wide--a total of ____ spaces. Since 1 inch contains ____ pica spaces, for a 1-inch LM, set the LM at ____; for a 2" LM, set it at ____.

85
10
10
20

11-8

For a short letter (of up to ____ words), use a 2" LM. That is, set the LM at ____. For each additional 100 words (or fraction of 100 words), make the LM a HALF-inch _____. REMEMBER: As letter length increases
(narrower/wider)
from short to medium to long, progressively reduce the LM a _____ inch at a time. In pica type, a half-inch
(half/full)
contains ____ spaces.

100
20
narrower
half
5 (½ of 10)

11-9

For a short letter, set LM at 20. For a medium-length letter, make the LM narrower by _____ inch(es) or ____ spaces; set it at 20 - _____ = _____. For a long letter (200+ words in the body), reduce the LM by another ____ spaces; set it at ____.

½
5
(20 -) 5 = 15
5
10

11-10

In a short letter, if LM = 20, then RM should also equal ____. Each line in the body of the letter should end as close as possible to 85 - ____, which equals ____. In a medium-length letter, LM = ____, and the lines in the body of the letter should end as close as possible to 85 - ____, which equals ____. In a long letter, whose LM is at ____, the lines in the body should end as close as possible to ____.

20
20
65
15
15
70
10
75

11-11

In pica type, as letter length increases from short to medium to long, the end of the WLs (writing lines) move up 5 spaces at a time from 65 to ____ to ____. But if you set your RM at one of these points (and try to reach it on each line), you would often run into the RM and have the annoyance of frequent use of the margin release key. To avoid that, set your RM 3 spaces past the point at which you want your WL to end. For a short letter, set the RM at 65 + 3 = ____. For a letter of 101-200 words, set the RM at ____; for 200+ words, set RM at ___.

70

75

68

73 (70 + 3)

78 (75 + 3)

11-12

Read across each row of the table below.

Letter Length	Inches LM	WL	RM	Pica Spaces LM	WL	RM
Short	2	4½	2	20	45	20
Medium	1½	5½	1½	15	55	15
Long	1	6½	1	10	65	10

Notice, above, that for every increase in letter length:

the WL gets _____ by ____ inch or ____ spaces;
(shorter/longer)

while each side margin gets _____ by ____ inch
(narrower/wider)

or ____ spaces.

longer

1

10

narrower

½

5

11-13

Study closely the summary of pica margin setting for business letters. Read it line by line.

Letter Length	Words	Side Margins Inches	Spaces	Set LM at	End WL at	Set RM at
Short	-100	2	20	20	65	68
Medium	101-200	1½	15	15	70	73
Long	200+	1	10	10	75	78

Letter length increases in groups of ____ words. With increases in letter length, LM is reduced ____ spaces at a time.

100

5

11-14

Every time you type a letter, you could refer to a table like that in the preceding frame to determine where to set your side margins. But you really shouldn't have to do so. All you need do is MEMORIZE: "short--20--5." The "short--20" means: for short letters, set LM at ____. The "5" means: for medium length letters reduce the LM by _____ spaces and, for long ones, by another ____ spaces. Whatever LM is, to locate RM just subtract LM from total spaces across the page, which is ____, and add ____ spaces.

20
5
5
85
3

11-15

Now a little TEST

Reread the preceding frame and its model answers. Try to answer these test questions by using the "short--20--5" formula. Try not to have to refer to Frame 11-13.

	Words in Body	Set Margins at Left	Right
1.	148	____	____
2.	68	____	____
3.	231	____	____

Were you able to answer the 3 questions without referring to Frame 11-13? _____

[This frame ends this section for those who use pica typewriters. The remaining frames deal with elite type.]

	Left	Right
1.	15	73
2.	20	68
3.	10	78

If you said "yes," CONGRATULATIONS!

11-16

There are 12 elite spaces to the horizontal inch. Across an 8½-inch page there would be a total of ____ spaces. If the side margins for some business letter were to be set at 25 (left) and 80 (right), the LM would contain ____ spaces and the RM would contain ____ - 80 = ____ spaces. In this instance it seems that LM _____ equal
(does/does not)
RM.

102
25
102 (- 80) = 22
does not

11-17

Typists rarely type all the way out to the RM because it is annoying to have to use the margin release key. They generally stop a few spaces short of the RM--about 3 spaces short. In the illustration in the preceding frame (side margins at 25 and 80), many of the lines would probably end about 3 spaces short of 80, at ____. If so, the RM would contain 102 - ____ = ____ spaces, which _____ equal
(is/is not)
to LM.

77
(102 -) 77 = 25
is

11-18

The tendency of typists to end each line a few strokes short of the RM permits margin settings for elite type that are easy to remember. For short letters (of up to ____ words) set LM at 25 and RM at 80. For each increase of 100 words (or fraction of 100 words) make each side margin 5 spaces _____. For a letter of 101-200 words, (narrower/wider)
LM would be at 25 - ___ = ____ and RM would be at 80 + ____ = ____. For a letter of 200+ words reduce each side margin by another ____ spaces; set the LM at ____ and the RM at ____.

100
narrower
(25 -) 5 = 20
(80 +) 5 = 85
5
15 (20 - 5)
90 (85 + 5)

11-19

Study closely the summary of elite margin setting for business letters; read it line by line.

Letter Length	Words	Elite Margins LM	RM
Short	-100	25	80
Medium	101-200	20	85
Long	200+	15	90

Letter length increases in units of ____ words. With increases in letter length, the width of each side margin is progressively _____ _____ spaces at a (reduced/increased) (how many?)
time.

100
reduced
5

11-20

In elite type, short letters use margins of ____ and ____.
A letter of 136 words would use margins of ____ and ____.
A letter of 243 words would use margins of ____ and ____.

25 (and) 80
20 (and) 85
15 (and) 90

11-21

It is not necessary to memorize three sets of margins. Just MEMORIZE "25--80--5." The "25" and "80" are the margins for short letters, ones of up to ____ words. The "5" means: for medium length letters (of ____ to ____ words) each side margin should be made _____ (narrower/wider) by ____ spaces; and for letters of more than ____ words, by another ____ spaces.

100
101 (to) 200
narrower
5
200
5

11-22

Now a little TEST

Fill in the blanks for elite type.

	Words in Body	Set Margins at Left	Right
1.	163	____	____
2.	92	____	____
3.	217	____	____

	Left	Right
1.	20	85
2.	25	80
3.	15	90

When you complete this section, you should be able to center, vertically, business letters with additional or special features, such as:

Extra paragraphs

An attention or subject line

A table

A series of numbered paragraphs

An enclosure listing

12-0

Section 12

Advanced Business Letters

40 Frames

12-1

Moving Date Line*

For a letter of up to 60 words, type the date on line 22. For each added 20 words or fraction of 20 words, raise the date 1 line. After the date, space down 4 lines to the inside address.

For a letter of 96 words, the date is on line ____.

_____

*See Section 10, Frames 5 to 18.

Fixed Date Line**

Place date on line 14 regardless of letter length. For up to 60 words, space down 12 lines to inside address. For each added 20 words or fraction of 20 words reduce the distance to inside address by 1 line.

For a letter of 107 words, between date and inside address space down ____ lines.

_____

**See Section 10, Frames 21 to 30.

12-2

The placement of a letter on the page depends mainly on the number of _____ in the _____ of the letter. However, some letters have additional features or elements that must be taken into account in deciding on vertical placement; that is, on the distance from the top of the page to the _____ or on the distance between the _____ and the inside address.

Moving 20 (22 - 2)

Fixed 9 (12 - 3)

words
body (or message)
date
date

12-3

For an ordinary letter of up to 60 words, a "moving" date is on line ____ from the top edge of the page, and you space down ____ times to the inside address. A fixed date is on line ____, and you space down ____ times to the inside address. For each additional 20 words or fraction of 20 words, the date line (or the distance between date and inside address) is _____ by _____ line(s).
(increased/reduced) (how many?)

22
4
14
12
reduced
1

12-4

The vertical placement rules given in Frame 12-1 for an ordinary letter assume:

1. A 2-paragraph letter
2. A 3-line inside address
3. No firm name below the closing
4. Identifying or reference initials on the same line as the typed signature or title and nothing below that

If a letter has more than two paragraphs, or if the inside address has more than ____ lines, or if there is a firm name below the closing, or if there is anything below the typed signature or _____ (Example: an enclosure listing), adjustments must be made in the _____ placement of the letter.
(horizontal/vertical)

3
title
vertical

12-5

Each paragraph in a letter must have a blank line before it. When you base vertical placement on words in the body, are blank lines between paragraphs taken into account? _____ An extra inside-address line might use only 3 or 4 words. But does it take as much vertical space as a full line in the body of a letter? ____ Consider this list of enclosures. Are the lines used for the enclosures taken into account in the rule for vertical placement of an ordinary letter? _____

Encs. 3
1--Check
2--Form
3--Envelope

no

yes

no

5

2

4

6 (2 for the firm name plus 4 for the enclosure listing)

permissible

1

2 (blank line + Enc.)

5 (blank line + 4 Enc. lines)

12-6

```
                    Very truly yours,
                    ACME MOVING CO.


                    John Tracy
                    Sales Manager

Encs. 2
   1--Check
   2--Form
```

At the left, if there were no firm name, John Tracy would be on line no. ____. A firm name adds ____ lines to the depth of a letter.

The enclosures, including the blank line just above them, add ____ lines to the depth of the letter.

EXTRA lines total ____.

12-7

(1)
```
mp
Enc.
```
Fred Cook
Manager

(2)
```
mp

Enc.
```
Fred Cook
Manager

(3)
```
FC:mp
Encs. 2
   1--Form
   2--Check
```
Manager

(4)
```
FC:mp
Encs. 3
   1--Form
   2--Check
   3--Catalog
```
Manager

All four of the illustrations at the left are correct.

A blank line above Enc. is _____.
(permissible/required)

The example that has no extra lines is no. ____.

Example no. 2 has ____ extra lines.

Example no. 4 has ____ extra lines.

12-8

You can see from the four illustrations in the preceding frame that, if the dictator's name is typed, his identifying initials _____ necessary.
(are/are not)

If you want to lower a letter that seems too high, you can lower the reference initials by a few lines. Ordinarily, as shown by the illustrations in the preceding frame, the reference initials should be typed _____.
(a/b)

a. A double space below the typed signature or title
b. On the same line as the typed signature or title

are not

b

12-9

1 Dear Sir:
2
3 The amount shown on . . . .

1 Dear Sir:
2
3 Subject: Invoice #147
4
5 The amount shown . . .

You can see from the examples above that a Subject line adds ___ lines to the depth of the letter.

2

12-10

The Kenwood Company
Attention: Mr. Cook
1400 Broadway
New York, NY 10019

Envelope

The Kenwood Company
1400 Broadway
New York, NY 10019

Letter

Attention: Mr. Cook

Gentlemen:

To speed the sorting of mail, the post office uses an Optical Character Reader (OCR) that requires envelope addresses to be single spaced--including an Attention line, if any. The letter could be typed in the same way; OR, to make it stand out, an Attention line could be typed as at the right, above, preceded and followed by ____ blank line(s). If so, an Attention line adds ____ EXTRA line(s) to the depth of a letter.

1
2

12-11

Assume a letter that has additional features (extra paragraphs or extra inside-address lines, an attention or subject line, a listing of enclosures). If you were to base vertical placement only on the number of words in the body of the letter, the letter would be too _____ on the page.
(high/low)

low

12-12

Assume that the dashed line at the left crosses the page at its vertical center.

If 2 lines are to be centered vertically, line 1 is typed ____ line(s) above the center. If 4 lines are to be centered vertically, line 1 is typed ____ line(s) above the center. In other words, for every TWO added lines, you raise the starting line by ____ line(s). To put it another way, raise the starting line by <u>half</u> the number of added lines. To center vertically a letter with 8 added lines, raise the letter by ____ lines.

1
2
1
4

12-13

A moving date line for a letter of 96 words would ordinarily be on line ____. If that letter has a <u>Subject</u> line, it would be ____ line(s) longer. Therefore, the date would be _____ by ____ line(s); type the date on line
(raised/lowered)
no. ____

20 (22 - 2)
2
raised
1
19

12-14

Using a fixed date line in a letter of 128 words, you would ordinarily space down after the date (to the inside address) ____ times. If that letter had an <u>Attention</u> line, it would be ____ line(s) longer. Therefore, the distance from the date to the inside address should be _____ by
(increased/reduced)
____ lines. Between date and inside address, space down ____ times.

8 (12 - 4)

2

reduced

1

7

12-15

An odd line added to a letter is treated just like an odd, leftover space in horizontal centering: you ignore it. For 4 added lines in a letter, raise the letter by ____ line(s). For 5 added lines, also raise the letter by ____ line(s). A letter with a Subject line and a list of 5 enclosures (preceded by a blank line) would be raised by ____ line(s).

2

2

4 [½ of (2 for the Subject line + 7 for the enclosure listing) = ½ of 9, ignoring the odd line.]

12-16

For a 2-paragraph letter with a 3-line inside address and nothing below the typed signature or title of the dictator, vertical placement is based entirely on _____ (what?) _____. If the letter has additional elements or features not taken into account by the vertical placement rules for an ordinary letter, you must _____ (lower/raise) the letter by ____ line(s) for each ____ added line(s).

number of words in the body

raise

1

2

12-17

The vertical placement rules allow for the blank line between paragraphs in a 2-paragraph letter--but not for the blank lines that separate additional paragraphs. Above the 2-paragraph allowance, a 3-paragraph letter has ____ extra paragraph(s). A 5-paragraph letter has ____ extra paragraph(s) and, therefore, ____ EXTRA blank line)s). A 5-line inside address has ____ EXTRA inside-address line(s).

12-18

Before you type a letter, check for these extras:

1. Does the inside address have more than ____ lines?
2. Between the inside address and the salutation, is there a(n) _____ line?
3. Between the salutation and the body, is there a(n) _____ line?
4. Does the body have more than ____ paragraphs?
5. Does the letter contain, in SOLID CAPS a double space below the closing, a _____.
6. Is there anything to be typed below the dictator's _____ or _____?

1
3
3
2

12-19

Fill in the blanks:

	Extra Lines
4-line inside address	_____
Subject line	_____
4 paragraphs	_____
A firm name	_____
2 enclosures listed, with a blank line preceding	_____
TOTAL	_____

A letter with all five of the above features would be raised by ____ line(s).

1. 3
2. Attention
3. Subject
4. 2
5. FIRM NAME
6. signature (or) title (either order)

12-20

To determine the location of a moving date line (or the spacing to the inside address after a fixed date line), FIRST consider the words in the body. NEXT, consider extra lines, if any. Assume a letter of 84 words that contains 4 extra lines. For 84 words, a moving date would be on line ____. Because of the 4 extra lines the date should be raised to line no. ____. For 84 words, a fixed date would be followed by ____ line(s). Because of the 4 extra lines, space down ____ line(s) to the inside address.

1
2
2
2
4
11

5 (½ of 11, ignoring the odd line)

20
18
10
8

Date

Gentlemen:

Subject: xxxxxx

rt John Lane

Encs. 3

12-21

The number of EXTRA lines in the letter at the left is ____.

For those extra lines the letter should be raised ____ line(s).

If the body of that letter has 117 words, a moving date would be on line no. ____.

With a fixed date on line ____, space down after the date ____ line(s).

12-22

Now a little TEST.

Assume: (a) a 5-line inside address, (b) a subject line, (c) 4 paragraphs, (d) 3 listed enclosures, and (e) 152 words in the body.

1. The letter described above has ____ EXTRA lines.
2. Without the extra lines, in typing the 152-word letter
   a. A moving date would be on line ____.
   b. A fixed date would be followed by ____ line spaces.
3. With the extra lines--
   a. A moving date would be on line ____.
   b. A fixed date would be followed by ____ line spaces.

[This frame makes a convenient stopping point.]

10 [inside address 1
Subject line 2
4 paragraphs 2
Enc. list 5
10]

5 (½ of 10)

14 (19 - 5)

14

4 (9 - 5)

1. 11 [inside address 2
Subject line 2
4 paragraphs 2
Enc. listing 5
11]

2a. 17 (22 - 5)

b. 7 (12 - 5)

3a. 12 (17 - ½ of 11)

b. 2 (7 - ½ of 11)

Furniture	$ 900
Fixtures	2,000
Merchandise	12,000

12-23

Some letters contain tables. At the left, the table contains the equivalent of about 10 words of typing; but those 10 words use _____ lines.*
(how many?)

Does the number of words in a table show how many vertical lines of space it will use?

*Not counting--yet--a blank line above and below the table.

3 (assuming single spacing and not counting a blank line above and below the table)

no

12-24

A table in a letter uses more vertical space than is measured by the number of words in the table. If you base vertical placement of a letter with a table only on the words in the body (including the table), the letter will be too _____ on the page. For correct vertical placement of a letter containing a table, you must consider the number of _____ in the table. You must consider the table _____ the words in the body.
(high/low) (words/lines) (as part of/separate from)

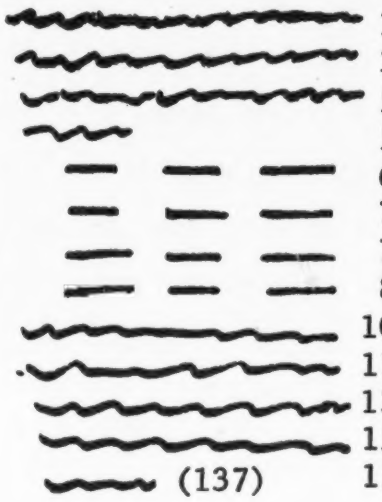
low
lines
separate from

12-25

Suppose that the body of a letter (including a 20-word table) contains 130 words and that the table uses 4 lines. FIRST, decide vertical placement as if the letter had no table; base it on 130 - 20 = ____ words. For it, a moving date would be on line ____; a fixed date would be followed by ____ line spaces. NEXT, consider the table as EXTRA lines. For 4 extra lines, you would raise a moving date or reduce the line spaces after a fixed date by ____ lines. The result so far (not counting extra paragraphs yet) is: moving date on line ____; fixed date followed by ____ line spaces.

110
19 (22 - 3)
9 (12 - 3)
2 (½ of 4)
17 (19 - 2)
7 (9 - 2)

12-26



In some typing textbooks, a cumulative word count (from date through initials) is at the right of lines in unarranged business letters. Words in the body are in parentheses at the end of the letter.

At the left, the word-count column shows 17 words in line 1, 33 words in lines 1 + 2, and so on. The table runs from word 56 to word ____. It contains ____ - 56 = ____ words.

Including the table, the body contains ____ words. Without the table, the body contains ____ words.

83

83 (- 56) = 27

137

110 (137 - 27)

12-27

The body of the letter in the preceding frame, minus its table, contains 110 words. For it, a moving date would ordinarily be on line ____; a fixed date would be followed by ____ line spaces to the inside address. But because of the 4-line table the letter must be raised by ____ lines. The result for this letter so far* is a moving date on line ____; a fixed date would be followed by ____ lines down to the inside address.

*Not yet counting extra paragraphs

19 (22 - 3)

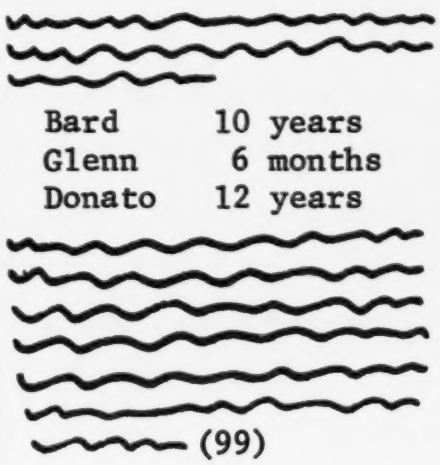
9 (12 - 3)

2 (½ of 4)

17 (19 - 2)

7 (9 - 2)

12-28



Some typing textbooks do not show a line-by-line word count, but only words in the body (in parentheses at the end of the letter).

In such books, just count the number of dictionary words in the table and subtract that number from total words in the body.

The table at the left has ____ words.

The body of the letter contains ____ words. Minus the table, the body contains ____ words.

9

99

90 (99 - 9)

12-29

The body of the letter in the preceding frame, minus its table, contains 90 words. For it, a moving date would ordinarily be on line ____; a fixed date would be followed by ____ line spaces to the inside address. However, for the 3-line table, the letter must be raised by ____ line(s). The result for this letter so far* is a moving date on line ____; a fixed date would be followed by ____ lines down to the inside address.

*Not yet counting extra paragraphs

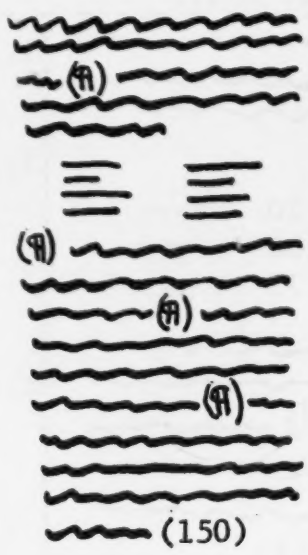
20 (22 - 2)
10 (12 - 2)
1 (½ of 3)
19 (20 - 1)
9 (10 - 1)

12-30

A table in a letter counts as a paragraph because it is preceded and followed by a blank line. The letter of Frame 12-23 (refer to it) should therefore be considered to contain ____ paragraphs.

4

12-31



In unarranged business letters in typing textbooks, new paragraphs (after the first one, which is UNMARKED) are shown as: (Par.) OR the par. sign is used (¶).

The letter sketched at the left contains ____ pars., or ____ EXTRA pars. The table contains ____ lines. The letter has a total of ____ EXTRA lines.

The table contains 15 words (to be subtracted from words in the body). Considering extra lines in the letter at the left, a moving date would be on line ____. A fixed date (on line ____) would be followed by ____ line spaces.

6 (2 before the table + 1 for the table + 3 after the table)

4

4
8

14 [Date on line 18 for 135 words. For 8 extra lines, raise the date by 4 lines (½ of 8); 18 - 4 = 14.]

14

4 [For 135 words in body (150 - 15), space down 8 after date. See explanation above for extra lines.]

12-32-

In business letters, table rows are sometimes single spaced, sometimes double spaced. Sometimes there is a table title, sometimes not. Sometimes there are column headings, sometimes not. In any case, be careful to count the actual number of vertical lines needed for the table, including blank lines, if any, within the table. A single-spaced table with 4 rows and 1-line column headings (but no title) contains a total of ____ lines. If the rows were double-spaced, the table would contain a total of ____ lines.

6 (4 rows + column heads + blank line after CHs)

9 (same as above + 3 blank lines separating the 4 rows of the table)

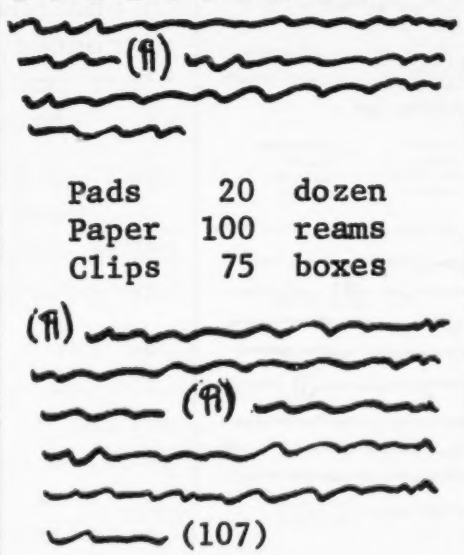
12-33

In some letter styles, paragraphs are blocked. In other styles, paragraphs are indented (usually 5 spaces). You can tell from the illustration in Frame 12-23 (refer to it) that when a letter contains a table, the letter will look more attractive if the paragraphs are _____.
(blocked/indented)

blocked

12-34

Now a little TEST.

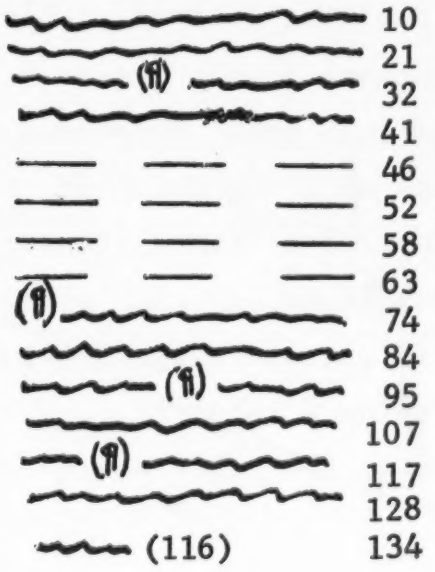


1. The letter at the left contains ____ EXTRA paragraphs.
2. The table contains about ____ words and uses ____ lines.
3. A moving date for the letter would be on line no. ____.
4. A fixed date would be on line no. ____ and would be followed by ____ line spaces.

[Test continued in the next frame]

12-35

TEST continued.



Assume double spacing for the table.

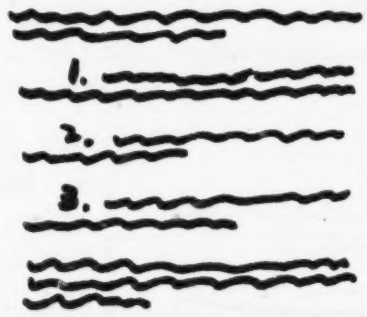
5. The table contains ____ words.
6. The body of the letter (without the table) contains ____ words.
7. The letter has ____ extra lines.
8. A moving date is on line ____.
9. After a fixed date, space down ____ lines.

[This frame makes a convenient stopping point.]

1. 3
2. 9
   3
3. 17 [Line 20 for 98 words (107 - 9), minus ½ of 6 lines (3 extra pars. and 3-line table)]
4. 14
   7 [Down 10 for 98 words (107 - 9), minus ½ of 6 lines (3 extra pars. and 3-line table)]

5. 22 (63 - 41)
6. 94 (116 - 22)
7. 11 (4 extra pars. + 7 lines in the double-spaced table)
8. 15 (Line 20 for 94 words minus ½ of 11 extra lines = 20 - 5 = 15.)
9. 5 (Down 10 for 94 words minus ½ of 11 extra lines = 10 - 5 = 5.)

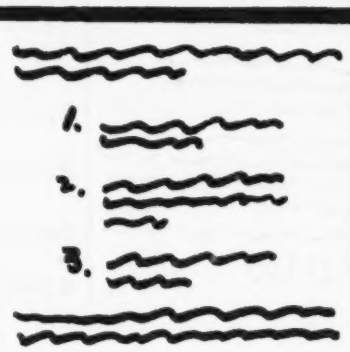
12-36



Some letters include numbered pars.

In one style, such paragraphs are indented from both letter margins, as in the _____ example.
(upper/lower)

In another style, only the first line of each numbered par. is indented--at the left only; otherwise, the lines use the letter margins, as in the _____ sketch.
(upper/lower)



In such letters, the unnumbered pars. (as in both sketches) should be _____.
(indented/blocked)

lower

upper

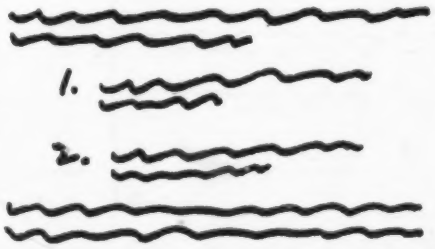
blocked

12-37

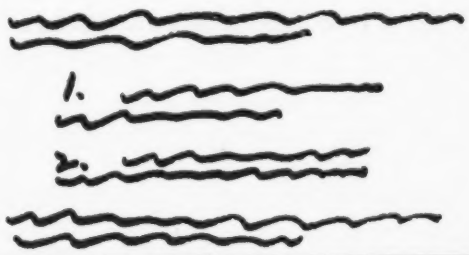
In the preceding frame (refer to it), the numbered pars. "stand out" more, are more attractive, in the _____ sketch.
(upper/lower)

Whichever of the two ways you choose, remember that every paragraph, numbered or not, is followed by a blank line. The sketches in the preceding frame (refer to it) show that each letter has ____ paragraphs--or ____ extra paragraphs. Which of the two versions below is correct (a or b)? _____

(a)



(b)



lower

5

3

a (The lines in numbered pars. that are indented on both sides are blocked at the left under the first word, not under the paragraph number.)

12-38

Whether or not you indent numbered paragraphs from both letter margins, the UNnumbered paragraphs should be _____. If you do indent numbered paragraphs
(indented/blocked)
from both letter margins, you have to keep an eye on the typing to make sure that you stop each line about 5 spaces short of the _____ margin. At the left, you could
(left/right)
either set a tab stop for the beginning of each line or you could temporarily reset the _____ _____.

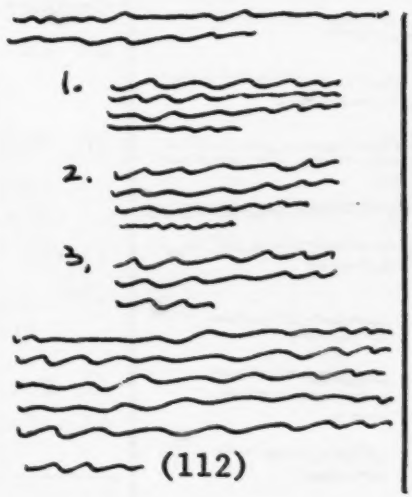
blocked

right

left margin

12-39

In deciding on the vertical placement of a letter with numbered paragraphs, usually all you have to consider (besides words in the body) is the total number of paragraphs.



But if there are many numbered pars. or long ones (indented from both sides), raise the letter by 1 line for each TEN lines (or 50 words) in the numbered pars. Otherwise, the letter might be too _____.
(high/low)

For the letter at the left, a moving date would be on line ____. A fixed date would be followed by ____ line spaces.

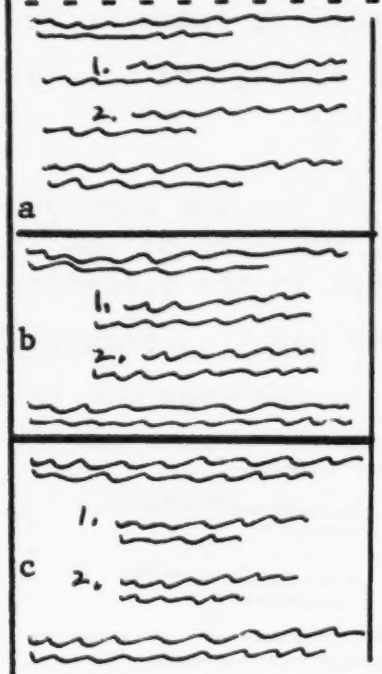
low

17 [Line 19 (for 112-word body) minus 2, which is ½ of 3 extra pars. + 1 line for 11 lines of numbered pars.]

7 [Down 9 (for 112-word body) minus 2, which is ½ of 3 extra pars. + 1 line for 11 lines of numbered pars.]

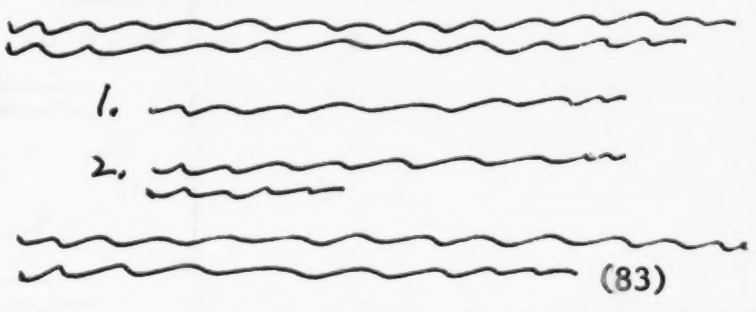
12-40

Now a little TEST



1. At the left, example _____ is preferred; example _____ is wrong.
(a/b/c/) (a/b/c)

2. For the letter below, a moving date is on line ____; after a fixed date (on line ____), space down ____ line(s).



c

b

19 (Line 20 for 83 words minus 1 for 2 extra pars.)

14

9 (Down 10 for 83 words minus 1 for 2 extra pars.)

When you complete this section, you should be able to:

- Estimate the number of words in a piece of copy
- Select appropriate side margins
- Determine how many typed lines will be needed
- Center the work vertically on the page

13-0

Section 13

Estimation of Copy Length
and
Centering of Estimated Materials

45 Frames

13-1

Most of the materials in typewriting textbooks are accompanied by a word count. The word count makes it easy to score the work for speed and it helps the student to make decisions about arranging work on the page when arrangement depends on the number of words or lines in the copy. But in real life do you suppose an employer would instruct his typist to "leave 8 spaces between columns" in some table or "To type this 137-word letter for me"? _____ If an employed typist is given a letter to type, do you suppose she counts all of its words, one by one? _____

13-2

no

no

Another important difference between typewriting textbooks and the materials from which an employed typist works is that, on the job, nearly half of the materials are in longhand. Sometimes that longhand might be quite clear; sometimes it might be ~~hard~~ difficult to read, with corrections and crossings out. In typewriting textbooks, nearly everything is perfectly printed. About how much of on-the-job typing is from longhand? ____

(nearly) half

13-3

The employed typist does not count words one by one. It takes too much time and is not necessary. Instead, he makes an estimate or guess. How? By counting the number of dictionary words on each of 3 or 4 lines selected AT RANDOM,* taking an average of those counts, and multiplying that average by the number of lines. Consider this example: Line 1 of this frame contains 11 words. Line 4 has 12 words; line 5 has ____ words. The total for those 3 lines is ____. Dividing that total by 3 results in an average (to the nearest whole word) of ____ words per line. This frame (without the footnote) has 12 lines. Total words in those 12 lines can be estimated as 12 x ____ = ____ words.

*At random means: not according to any fixed plan or pattern--not in some regular way or order.

9
32
11
(12 x) 11 = 132

13-4

The first 12 lines of the preceding frame were estimated to contain 132 words. Actually (counting each blank to be filled in as 1 word*), the 12 lines contain 131 words. The difference is only ____ word(s). If a business letter of 131 words were estimated to contain 132 words, would that make any difference in the horizontal or vertical margins you would use? ____ As compared to counting words one by one, estimating is accurate enough, and it is

_____.
(more exact/faster)

*In these frames, count each blank to be filled in as one word--except when more than one word is required in the blank.

1
no
faster

13-5

Remember that at random means: not in any regular way. So don't count the first 3 or 4 lines or the last 3 or 4 lines. Instead, skip around. In a 15-line set, you might count lines 1, 4, 11, and 13. Or you might count lines 2, 8, and 14. Jot down your count for each line, like this: ↴

From the column of numbers at the right, you should be able to tell at a glance (without doing any arithmetic) that the average number of words per line is ____.

11
10
9
10

10

13-6

If you cannot see at a glance what the average of a set of numbers is, add them up and divide the sum by the number of numbers. Example: the average of 8, 11, 12, 10 is:

The three typed lines just above this one contain ____ + ____ + ____ = ____ words. Dividing that total by 3 results (to the nearest whole word) in ____.

$$\begin{array}{r} 8 \\ 11 \\ 12 \\ \underline{10} \\ 4\overline{)41} \\ 10 \end{array}$$

13-7

14
12
11
37

12 (37 ÷ 3)

If you count any three or four lines of the longhand in Frame 13-2, you will see that the average number of words per line is ____. Suppose you had to estimate total words in that frame (counting the first typed line as if it had been in longhand). Since total words = number of lines times average number of words per line, the result is:

____ x ____ = ____ words.

13-8

7

10 x 7 = 70

Note. The frame actually contains 67 words.

If a line ends with a divided word, count it as a whole word if most of the word is on that line. Otherwise, do not count it. In line 4 of Frame 13-1 (refer to it), would you count the last (divided) word as a full word? _____
How about the last (divided) word in line 9 of that frame? Would you count it as a full word? _____
If the larger part of a divided word begins a line, count it as a full word. In Frame 13-1 (refer to it), line 2 should be counted as containing ____ words. In Frame 13-30 (refer to it), line 4 contains ____ words.

yes

no

12 (panied counts as a word)

8 (ment does not count as a word)

13-9

When you count lines, do not count a fraction of a line as a full line. For example, Frame 13-7 (refer to it) contains _____ lines. The last line contains (count one by one) ____ words. With an average of 11 words per full line in that frame, total words should be estimated as 6 x 11 plus the words on the last line. The total is ____ words.

(6½/7)

6½

6

72 (6 x 11, plus 6)

Note. The frame actually contains 72 words.

13-10

In Frame 13-8 (refer to it), line 6 (which ends the first paragraph) is not a full one. Line 10 (which ends the second paragraph) is also not full. On lines that are not full (or almost full), count the words one by one and add them to your count for full lines.

The 8 full lines in Frame 13-8 average 12 words per line. Total words in that frame, including the words on the two partial lines, should be estimated as ____.

113

(8 x 12 = 96
Line 6 = 9
Line 10 = 8
Total = 113)

Note. The actual total is 113.

13-11

Some lines might contain many short words; other lines might contain longer words. That is why it is necessary to count several lines (three or four) in order to estimate average words per line. For example, in Frame 13-1 (refer to it), line 3 contains ____ words. But line 4 contains ____ words. You should therefore count an additional two lines in that frame to determine that the average line has ____ words and to estimate total words in that frame as _____.

(how many?)

12

9

11

110 (11 x 10)

Note. Actual words = 107

13-12

Often, counting words on each of 3 randomly selected lines will result in an accurate average. But if the count varies considerably on those three lines, then count at least two more lines. If your count for three lines is 7, 13, 11, then another few lines _____ be counted.
(need not/should)

should

Summary 13-13

Whether you are working from longhand or from perfect print or from previously typed material, to estimate total words in the copy, FIRST count the number of dictionary words on each of at least _____ lines. SECOND, if
(how many?)
the count on those lines varies quite a bit, count another ____ lines. THIRD, determine the _____ number of words per line. FOURTH, _____ that number by
(+/-/÷/x)
_____.
(what?)

3 or 4

2

average

x (multiply)

total number of lines in the copy
(or equivalent wording)

13-14

When you type mainly from the same sort of materials, you quickly learn how many words per line typically appear in those materials.

For example, from you work on the earlier frames in this section, perhaps you already know that in many (but not all) of these frames, the average typed line contains ____ words.*

In the same way, you might get to know that your employer typically writes, say, 8 words of longhand on each line. If he writes on a ruled pad containing 25 lines on a page, then each of his pages contains about ____ words. A half-page of his writing would contain about ____ words.

*If you do not know, just count a few lines in this frame.

11
200 (8 x 25)
100 (½ of 200)

13-15

Estimation of length of copy is a necessity for the personal typist, as well as for the employed one. You might draft in longhand an important personal letter or a term paper or report for a high school or college course--before typing it. Suppose you were instructed to write a report of at least 1,500 words. If you draft in longhand, writing 10 words per line on a 30-line ruled page, you would know that each full longhand page contains ____ words. So, for at least 1,500 words, you would have to write at least ____ pages.

300 (10 x 30)
5 (1,500 ÷ 300)

13-16

When you know how many words per line typically appear in your (or your employer's) longhand, you should _____.
(a/b)

a. Continue to count 3 or 4 lines and take an average for each piece of work.
b. Just multiply the number of lines (or pages) by the number of words that you have found from past experience to be typical per line (or per page).

b

13-17

The longhand in Frame 13-2 averages 7 words per line. The typed lines in these frames often average about 11 words per line. As compared to typing, longhand uses _____ space.
(less/more)

If 20 lines of longhand are typed, the number of typed lines will be _____ than the number of longhand lines.
(fewer/about the same/greater)

more
fewer

Elite	Pica
20-85	15-70
25-80	20-65
15-90	10-75

1. 9
   11
   101 [(9 x 11) + 2]
   Note. Actual total = 100.
2. 6
   8
   52 [6 x 8 = 48
   last line = $\frac{4}{52}$]
   Note. Actual total = 50.
3. (Elite) 25 - 80
   (Pica) 20 - 65

13-18

For business letters, you would apply the usual placement rules (about side margins and date line) to your estimate of the number of words in the body of the letter.*

If you estimate the body of some letter to contain 120 words, in your size of type you would set side margins at ____ and ____. A letter of up to 100 words would use side margins at ____ and ____. For more than 200 words, set side margins at ____ and ____.

*If you use PICA type, for the remainder of this section of the program assume RM set at the end of the writing line, not 3 spaces past it. Example: for short PICA letters, margins should be stated as 20-65, not 20-68.

13-19

Now a little TEST.

1. Frame 13-15 (refer to it) contains ____ full lines and averages ____ words per full line. Including the final partial line, the frame should be estimated to contain a total of ____ words.
2. Frame 13-12 (refer to it) contains ____ full lines and averages ____ words per full line. All together, the frame should be estimated to contain ____ words.
3. If Frame 13-12 were to be centered on a page (using letter margins), the side margins in your size of type should be set at ____ and ____.

[This frame makes a convenient stopping point.]

13-20

All work should be attractively arranged (centered) on the page. For some kinds of work (but not in business letters), after you have estimated total words, you must:

1. Select appropriate side margins. The more words to be typed, the _____ (narrower/wider) the side margins and the _____ (shorter/longer) the WL (writing line).
2. Then determine the number of words that can be typed per line, using those side margins. The longer the WL, the _____ (fewer/more) words can be typed per line.

1. narrower
   longer
2. more

13-21

When you have selected side margins and know how many words of typing will fit, on the average, on each typed line, you next--

3. Determine how many lines of typing will be required. For example, if your side margins permit 10 words per line and you have 150 words to be typed, you know that the work will require ____ lines of typing.
4. Then, to determine vertical margins, subtract the lines used from the total available on the page and divide the difference by ____. For example, to center vertically 15 single-spaced lines of typing on a half sheet, in the top margin there would be ____ blank lines, and you would start to type on line ____.

3. 15 (150 ÷ 10)
4. 2
   9 [½ of (33 - 15)]
   10

13-22

Here, in order, are the questions to be answered in order to center material on the page:

1. How many words are to be typed?
2. What side margins should be used?
3. With those margins, how many words fit on a line?
4. How many lines of typing will be required?
5. How many lines are left for vertical margins?

Let's start with Step 2. Suppose you had to type an announcement containing only ordinary paragraph material for posting on a school or office bulletin board. Use the side margins that apply to business letters. If you estimate 150 words in the announcement, in your size of type you would set LM at ____ and RM at ____.

(elite) 20 - 85
(pica) 15 - 70

13-23

The next question is: How many words fit per line? The answer is based on the fact that the average word in the English language requires 5½ to 6 typewriter strokes. To take that into account in determining typed words per line, divide the number of spaces in the WL by 5; then subtract 1.

With a WL of 60 spaces, 60 ÷ 5 = 12, and 12 - 1 = 11. With a 60-space writing line, you will be able to type, on the average, ____ words per line.

With elite side margins at 20-85, the WL is ____ spaces long, and you can type an average of ____ words per line.

With pica side margins at 15-70, the WL is ____ spaces long, and you can type an average of ____ words per line.

11
65 (85 minus 20)
12 [(65 ÷ 5) - 1]
55 (70 minus 15)
10 [(55 ÷ 5) - 1]

13-24

For the 150-word announcement referred to in Frame 13-22, in your size of type you would set side margins at ____ and ____, resulting in a WL of ____ spaces. With that WL you will average ____ words per line. The 150 words of typing will therefore require ____ typed lines.*

*A fraction of a line takes the same vertical space as a full line. So count any final fraction of a line as a full line.

<u>Elite</u>
20 - 85
65
12 [(65 ÷ 5) - 1]
13 (150 ÷ 12)

<u>Pica</u>
15 - 70
55
10 [(55 ÷ 5) - 1]
15 (150 ÷ 10)

13-25

Once you know how many lines of typing will be used, vertical centering is done in the usual way. To find the distance from the top for the first line of typing, just subtract lines used from the total available on the page, divide the difference by 2, and add 1.

To center vertically 13 single-spaced lines on a half sheet, start on line ____. To center 10 double-spaced lines on a full sheet (requiring twice the number of typed lines, minus 1), start on line ____.

11 [½ of (33 - 13), + 1]
24 [½ of (66 - 19), + 1]

13-26

Remember that the side margins used for business letters of various lengths are also used when any ordinary paragraph material has to be centered on the page. MEMORIZE the fact that for up to 100 words of material you should set side margins (in your size of type) at ____ and ____, giving you ____ words per line. For 101-200 words, set side margins at ____ and ____, resulting in ____ words per line. For more than 200 words, set side margins at ____ and ____, in which you can fit ____ words per line.

Elite	Pica
25-80	20-65
10	8
20-85	15-70
12	10
15-90	10-75
14	12

13-27

Suppose you decide to use side margins that will make some piece of work take 20 lines. You must make certain to type full lines, to type all the way out to your right margin on each line (except for a partial final line). Otherwise, your work will be unattractive because your right margin is ragged and uneven. Also--because you did not type full lines--the work will actually take _____ than 20 (less/more)

lines and will be too _____ on the page. (low/high)

more

low

13-28

Remember that dividing total words by average number of words per line results in number of typed lines. You must also take into account any blank lines that might be required (for example, between single-spaced paragraphs or after a heading that precedes the paragraphs). In fact, if there is a heading, count it as a separate line, apart from the lines required for typing the paragraphs.

Assume 15 single-spaced lines in 3 paragraphs, plus a 1-line heading to be followed by 1 blank line. Total lines = ____. If centered vertically on a ½-sheet, start to type on line ___.

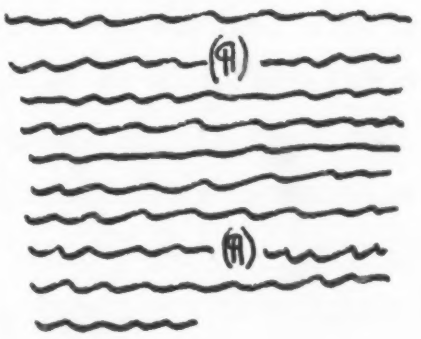
19

15 typed lines
2 blank lines between 3 pars.
1 heading line
1 blank line after the heading
19

8 [½ of (33 - 19), + 1]

13-29

Vacation Policy



At the left is a sketch of an announcement for posting on an office bulletin board. It has ____ paragraphs.

If these paragraphs contain an estimated 95 words, set side margins at ____ and ____.

You will get ____ words per line and use, for the paragraphs alone, ____ TYPED lines.

Using single spacing (but double spacing after the heading and between paragraphs), the announcement will use a total of ____ lines. If centered on a half-sheet it should start on line ____.

3

Elite	Pica
25-80	20-65
10	8
10	12
14*	16*
10	9

*Typed lines plus 4--(CH + blank line after CH + 2 blank lines between 3 pars.)

13-30

If the announcement of the preceding frame had 120 words, you would set side margins at ____ and ____, resulting in ____ words per typed line. The paragraphs in the announcement would require ____ typed lines. Using double spacing (but a triple space after the heading), on a full sheet you would type the heading on line ____.

By now you may have recognized that for short, medium, and long materials (to 100, 101-200, 200+ words), with elite margins you average 10, 12, and ____ words per typed line. With pica margins you average 8, 10, and ____ words per typed line. You can save a little time if you _____.
(a/b)

a. Memorize those figures
b. Figure them out each time

Elite	Pica
20-85	15-70
12	10
10	12
23*	21**
14	12

*10 lines in DS use 19 lines + CH + 2 lines after CH = 22 lines. ½ of (66 - 22), + 1 = 23.

**12 lines in DS use 23 lines + CH + 2 lines after CH = 26 lines. ½ of (66 - 26), + 1 = 21.

a

13-31

Often, the last line in a paragraph is not a full one. If you do not take that into account, your estimate of typed lines might be too low, and your work could turn out to be too _____ on the page. You can be more exact if you
(low/high)

1. Estimate words paragraph by paragraph.
2. Select side margins based on the total for all pars.
3. Figure out number of typed lines par. by par.; then total for all pars.

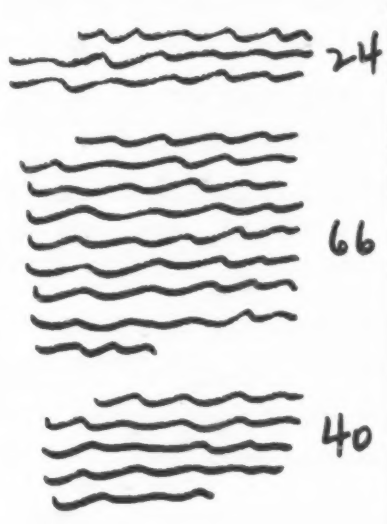
The preceding steps take into account that--using side margins that allow 10 typed words per line--a paragraph that contains an estimated 24 words will use (in single spacing)

____ lines of depth on the page.

low

3 (A fraction of a line of typing takes a full line of depth on the page.)

13-32



The estimates at the left show 24 words in par. 1, 66 words in par. 2, and 40 words in par. 3.

For the total of ____ words:

1. Set side margins at ____ and ____, resulting in ____ words per line.
2. Par. 1 will require ____ lines; par. 2 will use ____ lines; par. 3 will use ____ lines.
3. Using double spacing, the 3 pars. will use a total of ____ lines on the page.

130

	Elite	Pica
1.	20-85	15-70
	12	10
2.	2	3
	6	7
	4	4
3.	23*	27**

*(2 x 12) - 1

**(2 x 14) - 1

2
3
4
5
3
3
20

18 (16 double spaced lines use 31 lines; and ½ of (66 - 31), + 1 = 18.)

14 (20 double spaced lines use 39 lines; and ½ of (66 - 39), + 1 = 14.)

3

2

5

would

13-33

If the paragraphs in the preceding frame had not been estimated one by one, your estimate of total typed lines would have been 1 line less. This is too small a difference to care about. But if there were many paragraphs, quite a large difference can result.

With a 14-word WL, 224 words would require 16 lines. But if the 6 pars. contained 23, 36, 44, 58, 33, and 30 words (total = 224), the number of typed lines needed for each par., in turn, would be: ____, ____, ____, ____, ____, and ____, for a total of ____ typed lines. Assuming double spacing and centering on a full sheet, for 16 typed lines you would start on line ____. But when you estimate par. by par., the starting line is line no. ____.

12-34

If the materials use only 2 or 3 paragraphs, don't bother to estimate typed lines paragraph by paragraph. But if there are 4 or more paragraphs, it pays to estimate one by one.

In Frame 13-31 (refer to it), there are ____ numbered paragraphs and ____ other paragraphs, for a total of ____ paragraphs. In that frame, estimating typed lines paragraph by paragraph _____ be desirable.
(would/would not)

13-35

Here are the steps in estimating copy length. Read them several times until you have them firmly in mind.

1. Count the number of dictionary words on each of _____ full lines.
2. Get the average words per line, multiply by the number of full lines, and add the words on incomplete lines. The result is an estimate of _____.
3. Select side margins based on total words. Use the same margins that are used for _____.
4. Determine typed words per line. Example: With a WL of 55 spaces, you get ____ typed words per line.
5. To determine total typed lines, divide the result of Step ____ by the result of Step ____.

1. 3 or 4
2. total words
3. business letters
4. 10 [(55 ÷ 5) - 1]
5. 2 (by) 4

13-36

The 5 steps listed in the preceding frame apply to materials that have only a few paragraphs. If there are more than a few paragraphs (4 or more), you should estimate words $\frac{\text{_____}}{(a/b)}$. Then estimate typed lines $\frac{\text{_____}}{(a/b)}$.

a. For the paragraphs together
b. Paragraph by paragraph

b

b

13-37

Now a little TEST.

1. In Frame 13-31 (refer to it) the full lines average 11 words per line, and the frame contains ____ paragraphs.
2. On the basis of 11 words per full line, the first par. should be estimated to contain ____ words. The numbered pars. contain, in turn, ____, ____, and ____ words. The last par. contains an estimated ____ words. The frame totals an estimated ____ words. Therefore, in your size of type set side margins at ____ and ____.
3. With those side margins you can type ____ words per line.

(Test continued in the next frame.)

1. 5
2. 44 (4 x 11)
   6
   11
   15
   40 [(3 x 11) + 7]
   116*

   (elite) 20-85
   (pica) 15-70
3. (elite) 12
   (pica) 10

*The actual total is 118.

13-38

Test continued.

(Check the model answers to Frame 13-37 before continuing.)

4. The number of typed lines required for each of the five pars. is, in turn, ____, ____, ____, ____, and ____-- for a total of ____ typed lines.
5. Assuming a 1-line heading (followed by a blank line) and double spacing between single-spaced pars., the frame uses a total of ___ lines.
6. If centered on a full sheet, type the heading on line ____.

(Test continued in the next frame.)

	Elite	Pica
4.	4	5
	1	1
	1	2
	2	2
	4	4
	12	14
5.	18*	20*
6.	25	24

* CH + blank line + 4 blank lines separating 5 pars. = 6 more lines; 12 + 6 = 18 (elite) and 14 + 6 = 20 (pica)

7. 7
   8
   74 [(7 x 8) + 6 + 6 + 4 + 2]

   Note. Actual total is 78.

Elite	Pica
25-80	20-65
10	8

8. (Elite) 2 + 1 + 2 + 2 + 2 = 9

   (Pica) 3 + 1 + 2 + 3 + 2 = 11

9. (Elite) 11
   (Pica) 10

21 (and) 81

11 [(60 ÷ 5) - 1]

13-39

TEST continued.

Apply to Frame 13-32 (ignoring the sketch at the left) the steps you just used for Frame 13-31.

7. The frame averages ____ words per full line and contains ____ full lines. Including partial lines, the frame totals ____ words. Side margins set at ____ and ____ result in ____ words per full typed line.
8. Typed lines for the pars., in turn, are ____, ____, ____, ____, and ____, for a total of ____ typed lines.
9. Centered on a ½-sheet (and using the vertical spacing shown in the frame), start to type on line ____.

[This frame makes a convenient stopping point.]

13-40

Business-letter margins have been recommended for use in this section of the program because persons who type many business letters quickly learn those margins. But for ordinary paragraph materials (not business letters) that have to be attractively centered on the page, you might prefer margins that give you writing lines of 50 or 60 or 70 spaces (instead of 45, 55, 65, or 75). In fact, 60 is always usable instead of 55 and 65 (but not instead of 45 or 75)--in both pica and elite type.

For a 60-space WL set the side margins 30 spaces on each side of center: for elite type set them at 51 - 30 and at 51 + 30; that is, at ____ and ____. Remember, however, that a 60-space WL gives you ____typed words per line.

13-41

Here is an alternative to using business-letter margins when paragraph materials are to be attractively centered on the page. In both pica AND elite type--

use a 50-space WL for up to 100 words. In your size of type, set margins at ____ and ____, resulting in ____ typed words per line.

For 101 to 200 words, use a 60-space WL. Set side margins in your size of type at ____ and ____, resulting in ____ typed words per line.*

*Materials of more than 200 words are discussed in the next frame.

Elite

26 and 76 (51 - 25 and 51 + 25)
9 (50 ÷ 5, - 1)
21 and 81 (51 - 30 and 51 + 30)
11 (60 ÷ 5, - 1)

Pica

17 and 67 (42 - 25 and 42 + 25)
9 (50 ÷ 5, - 1)
12 and 72 (42 - 30 and 42 + 30)
11 (60 ÷ 5, - 1)

13-42

Because side margins should not be less than 1 inch on each side, you should not use more than a 65-space line in pica type. Therefore, in pica type use a WL of not more than 60 or 65 spaces for materials of more than ____ words. In elite type, on the other hand, for more than 200 words use a 70-space WL. Set elite side margins at ____ and ____, resulting in ____ typed words per line.

200

16 and 86 (51 - 35 and 51 + 35)
13 (70 ÷ 5, - 1)

13-43

To center ordinary paragraph materials, you can choose between using business-letter margins or a round-number WL (50, 60, 70 spaces). In your size of type--

1. For up to 100 words, use EITHER letter margins of ____ and ____ OR (with WL = ____) margins of ____ and ____.
2. For 101-200 words, use EITHER letter margins of ____ and ____ OR (with WL = ____) margins of ____ and ____.
3. For more than 200 words, use EITHER letter margins of ____ and ____ OR (with WL = ____) margins of ____ and ____.
4. A WL of more than 65 is not permitted in _____ (elite/pica) type.

	Elite	Pica
1.	25-80	20-65
	50	50
	26-76	17-67
2.	20-85	15-70
	60	60
	21-81	12-72
3.	15-90	10-75
	70	60 or 65
	16-86	12-72 or 10-75

4. pica

13-44

If you use a round-number WL for materials of 124 words, you would set side margins (in your size of type) at ____ and ____. With those margins, each full typed line would average ____ words. The 124 words would require ____ typed lines. Centered in double spacing on a full sheet, you would start to type on line ____.

(elite) 21 and 81

(pica) 12 and 72

11

12

22

[12 lines in DS use 23 lines, and ½ of (66 - 23), + 1 = 22.]

13-45

Now a little TEST.

1. The 3 numbered pars. of Frame 13-38 (refer to it) average 11 words per full line and contain an estimated total, including partial lines, of ____ words.
2. For those 3 pars. use a round-number WL of ____ spaces and set side margins at ____ and ____. On each full typed line you would average ____ words.
3. The 3 pars. would require, in turn, ____, ____, and ____ typed lines. Double spaced on a ½-sheet, you would use a total of ____ lines and start to type on line ____.

1. 70 [(5 x 11) + 7 + 7 + 1]

   Note. Actual total is 68.

2. 50

   (Elite) 26 - 76
   (Pica) 17 - 67

   9 [(50 ÷ 5) - 1]

3. 4, 4, and 2 (total = 10)

   19 [(2 x 10) - 1]

   8 [½ of (33 - 19), + 1]

When you complete this section, you should know:

- What horizontal and vertical margins to set for bound and unbound reports
- Where to number pages
- How to type headings in a report
- How to type footnotes in a report

14-0

Section 14

Manuscript and Report Typing

40 Frames

14-1

A manuscript (abbreviated ms., plural is mss.) or a report is always typed in double spacing, using margins of 1 inch all around* (left, right, top, bottom). For a 1" margin in your size of type, the left margin would be set at ____ and the RM at ____. Since, in both pica and elite type, 6 single-spaced lines make 1 inch, to have a top margin of exactly 1 inch the first line of typing on each page would be on line ____.

*Unless the ms. is bound--at the left side or at the top.

14-2

(elite) 12 (and) 90

(pica) 10 (and) 75

7

Nearly always, mss. or reports are typed on 8½" x 11" paper. With 6 vertical lines to an inch, standard-size paper is ____ lines long. To have a bottom margin of exactly 1 inch, the last line of typing should be on line no. ____.

14-3

66

60 (Lines 61, 62, 63, 64, 65, 66 are the 6 blank lines in the bottom margin.)

In double-spaced typing, if you start each page on line 7 you will type on odd-numbered lines (7, 9, 11, and so on). If so, will you type on line 60? _____ Therefore, make the top margin a little more than 1 inch. Start each page 1 line lower, on line ____. Then, in double-spaced typing on even-numbered lines (8, 10, 12, and so on) you can end on line 60, and the margin will be exactly 1 inch at the _____.
(top/bottom)

14-4

no (60 is not an odd number)

8

bottom

In a printed book every page (except the first and last one in each chapter) starts the same distance from the top of the page and ends the same distance from the bottom of the page. A typed ms. or report should aim at the same evenness. So start each page on line ____ and end each page on line ____. If you do that, the number of double-spaced lines on each page will equal ____.*

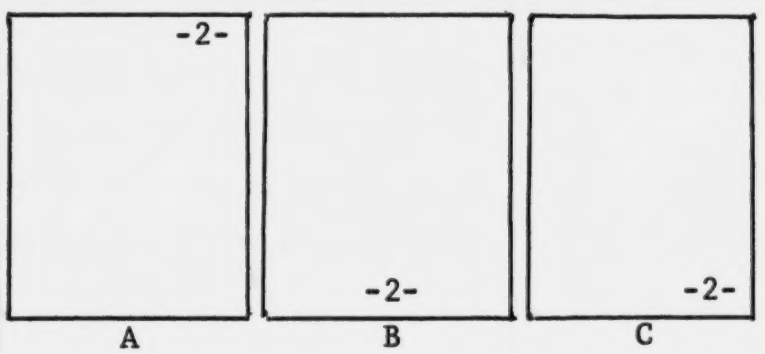
*Arithmetic Hint. From line 8 through line 60 inclusive is 53 lines. You type on every other line, including the first and last lines.

14-5

8

60

27 (the "larger half" of 53)



Type page numbers in any of the 3 positions shown at the left. Of the 3, the most convenient is: top right, as shown at _____.
(A/B/C)

Top numbering is a double space above the first line of typing; bottom numbering is a double space below the last line of typing.

For typing that starts on line 8, top numbering would be on line ____. Bottom numbering would be on line ____.

14-6

A

6

62

Page numbers may be typed either with or without surrounding hyphens: either 5 or -5-. If a page number is not centered at the bottom, then it is blocked at the right, lined up with the right margin. Just move the carriage to the right margin and back up the necessary number of spaces. To type page number -14-, just back up from the right margin ____ spaces. Or you could set a tab stop. With an elite RM at 90, for page -14- and all other 2-digit page numbers, set a tab stop at ____.

14-7

4 (or 3)*

86 (or 87)*

*Backing up 3 spaces or setting a tab stop at 87 puts the last stroke in the page number in the last space. But since few lines on the page will reach the last space, it does not matter if the page number is one space further to the left.

It is better to put the page number at the right (top or bottom) than at the center (bottom). In that way, a person can find a particular page just by flipping the edges of the pages. If you use bottom numbering (either center or right), there is a risk of the paper sliding out of the typewriter or becoming crooked as you space as far down on the page as line 62 for the page number--especially when carbon copies are made. Therefore, the best of the three possible positions for the page number is _____ (bottom center/ _____. bottom right/top right)

14-8

top right

Many typewriters have an attachment which, when set in a certain way before you insert paper, tells you how far from the bottom of the page you are. There are also numbered backing sheets or special line-counting rulers that can be purchased. Otherwise, to avoid typing too far down on the page, you have to check as you approach the bottom.

One way to check is to count the number of double spaced lines you have typed. Stop when you have typed _____. (how many?)

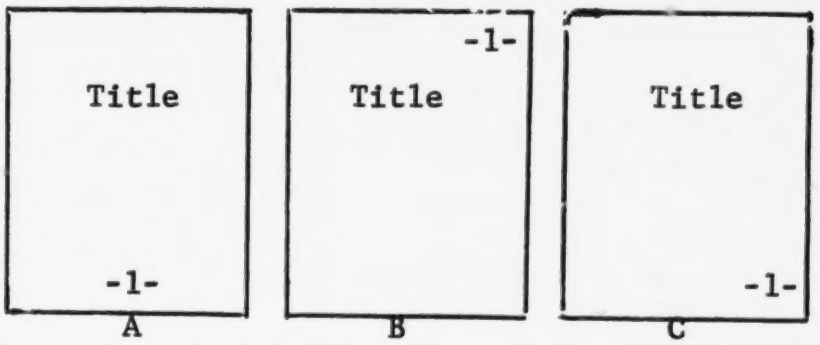
Another way is to make a light pencil mark about 1½" from the bottom of each page (at the right edge).* When you see that mark, you know you are approaching line no. ____.

*Of course you erase the mark after the page is typed.

27
60

14-9

The title of a report (and sometimes the name of its author) are often typed at the top of the first page. A page number at the top of that page would reduce the attractive appearance of the title line. For that reason, the first page of a report is either left unnumbered or its number is typed at the bottom of the page.



Of the three illustrations at the left, the one that is not correct is _____.
(A/B/C)

B

14-10

When the title of a report is typed at the top of the first page, there is another special feature that applies to that page; that is, use a top margin of 1½ inches on that page.* Type the title of the report starting on line ____.

*On all later pages, use a 1-inch top margin.

10

14-11

10 HOW TO TYPE REPORTS AND MANUSCRIPTS
11
12 Frank R. Walker
13
14
15
16 This is the first line of typing in the report

As shown by the line count above, the top margin (above the report title) is ____ inch(es). Between title and author you _____ space. To reach the first ms.
(single/double/triple)
line, use (what spacing?) _____.
If page 1 has a title, can you fit 27 lines of ms. on that page? ____

14-12

If a report has a separate cover page or title page,* there is no need to repeat title and author on page 1 and no need to leave a deeper top margin on the first page. If there is a separate title page, start page 1 on line ____. If there is no title repeated on page 1, should its page number be typed at top right? _____

*See any typewriting textbook or style manual for the content and design of a title or cover page for a report.

1½
double
two double spaces
no

14-13

It is quite common to enclose longer reports in a binder* or folder--just as the pages of a book are bound within hard covers. If so, in order not to hide the left edges of the typing, side-bound mss. use a <u>left</u> margin of 1½ or 2 inches (the other margins remain 1 inch). For a 1½-inch LM on your typewriter, set the LM at ____; for a 2-inch LM, set it at ____.

*A report--especially a short one--does not have to be placed in a binder. But a binder keeps the report clean and makes a good impression.

8
yes

14-14

Most reports--if they are bound at all--are bound at the <u>left side</u>, requiring a left margin of ____ or ____ inch(es). Legal documents and some types of business reports are bound at the <u>top</u>, requiring a top margin of 1½ or 2 inches (the other margins remain 1 inch). For a 1½-inch top margin, start to type on line ____. For a 2-inch top margin, you would start each page on line ____. However, if you prefer to type on even-numbered lines, start 1 line higher on the page, on line ____.

(elite) 18
(pica) 15

(elite) 24
(pica) 20

14-15

1½ (or) 2
10
13
12

To avoid typing too far down on the page, as you approach the bottom you should check the number of typed lines.* In an unbound ms. (typing in double spacing from line 8 to line 60), you can fit ____ lines on a page. In a top-bound report using a top margin of 1½ inches, each page starts on line ____--so that a page contains ____ typed ms. lines. In a report with a top margin of 1 line less than 2 inches, you start on line ____ and can fit on each page ____ typed lines.

*Or watch for your light pencil mark made about ____ inches from the bottom of the page, at the right edge.

14-16

27
10
26
12
25
1½

A bound report uses a wider side (or top) margin on all pages (the other three margins remain 1 inch). Only very long reports (about 100 pages or more) require a 2-inch margin on the bound side or edge. In a side-bound report of less than 100 pages, set LM at ____. In a top-bound report of less than 100 pages, start each page on line ____. If a report or term paper for a high school or college course is to be bound, it should be _____ bound, using (side/top) a margin on the bound side of ____ inch(es).

14-17

(elite) 18
(pica) 15
10
side
1½

If a high school or college student works hard at a report, he hopes that his instructor has read it carefully--as revealed by comments written in the margins by the instructor. To permit room for comments (even if you do not put your report in a binder), be generous with marginal space. Use a 1½-inch LM--and even a 1½-inch RM, too. But keep the top and bottom margins at 1 inch. For margins of 1½ inches on each side, set the margin stops in your size of type at ____ and ____.

(elite) 18 and 84
(pica) 15 and 70

14-18

It was pointed out in Section 9g (Frame 83) that the horizontal center of a side-bound ms. page is <u>not</u> the center of the page, but the center of the writing line. For example, with (elite) margins in a side-bound ms. at 18 and 90, the WL (writing line) is 90 - 18 = ____ spaces long. Its midpoint is at 18 + ½ of (90 - 18), which equals ____. With pica side margins of 15 and 75, the midpoint of the WL is at ____. To center horizontally the title of a report or of a section of it, you would start to backspace from the center of the _____.
(page/WL)

72
54 (18 + 36)
45 [15 + ½ of (75 - 15)]
WL

14-19

Now a little TEST.

1. The abbreviation for manuscript is _____.
2. In an UNbound report, set side margins in your size of type at ____ and ____. The first line on each page is typed on line ____, and you can type on a full page ____ double-spaced lines.
3. In a short side-bound report, make the _____ margin wider. Set it at ____ on the scale.
(which?)
4. In a long top-bound report, start each page on line ____.
5. Of the three positions for page numbers, the preferred position is _____.

[Test continued in the next frame]

1. ms.
2. (elite) 12-90
   (pica) 10-75

   8

   27
3. left

   (elite) 18
   (pica) 15
4. 12
5. top right

14-20

TEST continued.

6. In an unbound report, a page number at the top is on line ____. After it, you _____ space down to the first ms. line. A page number at the bottom is a _____ space below the last line of typing.
7. With a 1½-inch left margin, horizontal centering in a report is done by backspacing from _____ on the carriage scale.
(what point?)
8. If the report title is on the first page, that page may be numbered (where?) _____.

[This frame makes a convenient stopping point.]

6. 6

double

double

7. (elite) 54 [18 + ½ of (90 - 18)]

(pica) 45 [15 + ½ of (75 - 15)]

8. at the bottom

14-21

Especially in a long report, it is very helpful to the reader if the various sections of the report have headings. These headings should show the organization of the report--in the same way that an outline does.

The headings for major sections are centered horizontally (using initial caps for important words) and should not be underscored. Triple space before each new centered heading and double space after it. Consider these examples:

1. ORGANIZATION OF A REPORT
2. Organization of a Report
3. Organization of a Report

Of the three, the correct centered heading is _____.
(1/2/3)

3

14-22

The next level of heading (for a subsection within a major section) is a Side Heading. It is typed at the left margin (using initial caps for important words and solid underscoring), preceded by a triple space and followed by a double space, like this:

This is the last line of ms. before a side heading.

← Triple space

Side Heading

← Double space

Here is the first line of ms. after a side head.

Is the space between words in a side head underscored? ____

Does the ms. after a side head begin a new par.? ____

yes

yes

14-23

The third and final level of heading it is possible to display in a typed ms. is a Paragraph Heading--for subdivisions of a section headed by a side head. Example:

Last line of a paragraph preceding a paragraph heading.

Paragraph Head. A paragraph head is indented like a paragraph, followed by a period (plus two spaces), with ms. continuing on the same line.

A new centered or side head is preceded by triple spacing. But a paragraph heading is preceded by an ordinary _____ space. A paragraph head _____ underscored.
(is/is not)

double

is

14-24

Of the three kinds of heads (C = Centered, S = Side, P = Par.), which one or more of them--

1. Is underscored? _____
2. Is preceded by a triple space? _____
3. Is followed by a double space? _____
4. Is followed by a period, with ms. continuing on the same line? _____

The first three levels in an outline use Roman numbers, capital letters, and arabic numbers, like this:

I. Centered head

A. Side head

1. Paragraph head

In a report, type a Roman-numbered item in an outline as a ____ head; type a capital letter outline item as a ____ head; type an arabic-numbered outline item as a ____ head.

1. S and P | C
2. C and S | S
3. C and S | P
4. P |

14-25

If you are typing on even-numbered lines, triple spacing to a new side or _____ heading will put you on an odd-numbered line. Depending on the headings on any ms. page, you could be changing a number of times between odd- and even-numbered lines. SO: you will not necessarily end each page on line 60. To avoid typing below line 60, an odd-numbered last line would be line ____.

The extra blank lines (before some headings) also mean that you cannot check your closeness to the bottom by counting 27 typed lines. Instead, roll the paper backwards and look to see how much space remains. Or use a ruler and stop when the distance from the top edge of the page is ____ inches. Or watch for your light pencil line drawn about ____ inches from the bottom edge.

14-26

centered

59

10

1½

Because headings on a ms. page could move you back and forth between odd- and even-numbered lines, you have a choice for the starting line on each page. Assuming an unbound ms., you could start each page on line 7 and end either on line 59 or line 60; or you could start one line lower, on line ____, and end either on line ____ or line ____. But no matter what appears on a ms. page, the first line on all pages should be the same: either line ____ or line ____.*

*Except on page 1 when it contains the report title and except in top-bound reports, which start lower down.

8
59
60
7
8

14-27

Now a little TEST.

Report Writing

I. Unbound Mss.

A. Side Margins
B. Vertical Margins

II. Bound Mss.

A. Side Bound

1. Short
2. Long

Note. Use C (Centered), S (Side), P (Par.), DS (double spacing), and TS (triple spacing).

1. IIA would be typed as a ____ head. Before it, you ____; after it, use ____. Is it underscored? _____
2. Heading II would be a ____ head. Before it, you ____; after it; use ____. Is it underscored? _____
3. IIA2 would be a ____ head. Before it, you ____. Is it underscored? _____
4. Ms. would continue on the same line after _____. (IA/IIA1)

[This frame makes a convenient stopping point.]

14-28

In a formal report, the sources of the facts or information presented are usually given in footnotes.[1] These are numbered serially[2] and typed at the bottom of the page. As shown below, each footnote is typed in _____ spacing; between footnotes, there is a _____ space. Just above the footnotes is a divider line. It consists of 10 (or 15 or 20) strokes of the _____ key. (what?)

_____

[1]See any typewriting textbook or style manual for information on the content of footnotes.

[2]In 1-2-3 order.

1. S
   TS
   DS
   yes
2. C
   TS
   DS
   no
3. P
   DS
   yes
4. IIA1

14-29

The serial numbering of footnotes applies throughout a report. You do not start with number 1 on each new page. If there is one footnote on page 1, two on page 6, and one on page 8, the footnote on page 8 will be number ____. Since all ms. pages should use a bottom margin of 1 inch, on any page containing footnotes the last line of the last footnote should be on line no. ____.

_____

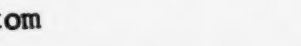
[1]A footnote belonging to a page must be begun on that page, but not necessarily finished. A long footnote might have to be continued at the _____ of the next page. (top/bottom)

single
double
underscore

4
60
bottom

14-30

Assume these to be the last lines on a page.



[1]Footnotes take paragraph indention.

[2]Footnote numbers are raised a half line.

1	54
2	55
3	56
4	57
5	58
6	59
7	60

To end the last footnote on line 60, you MUST estimate <u>in advance</u> how many lines will be needed for footnotes--INCLUDING BLANK LINES AND THE DIVIDER LINE. To find the last possible line of ms. (before the divider), subtract the footnote total from 60.

As shown by the line count above, the footnotes require (from divider line to last line) ____ lines. To leave enough room for them, the typing that precedes the footnotes must end no lower on the page than line ____.

7
53

14-31

In counting footnote lines, the divider line counts as 1 line and the blank line after it counts as a second line. After that, just count lines of typing in the footnotes (including a blank line between footnotes). In Frame 14 - 28 (refer to it), the footnotes use ____ lines.

If some page had three footnotes, using, in turn, 1, 3, and 2 <u>typed</u> lines, the total needed for footnote lines (including all blank lines and the divider line) would be ____. On that page, the last line of ms. preceding the footnotes could not be lower than line no. ____.

6
10
50 (60 - 10)

14-32

In Frame 14-30 (refer to it), the divider line is a single line below the last ms. line on line 53; it is on line ____. If the ms. typing had been on even-numbered lines, to keep the divider line on line 54 (where it MUST be in order to end the footnotes on line 60), the last line of ms. on that page would have to be line ____. After it, to reach line 54, you would _____ space down.
(single/double/triple)

54
52
double

14-33

To locate the last possible ms. line, you could subtract the number of footnote lines from 60. But a safer method is to locate the divider line position by subtracting from 61. The footnotes in Frame 14-28 (refer to it) contain ____ lines. The divider line before the footnotes should be on line ____. If the ms. typing were on odd-numbered lines, the last ms. line would be no. ____; if on even-numbered lines, the last ms. line would be no. ____, and you would _____ space down to the divider line.
(single/double)

6
55
53
54
single

14-34

The first row of the table below shows that for two footnotes (containing 1 and 2 typed lines), 6 lines of footnote space are required, placing the divider on line 55. Fill in the blanks in the table.

	Typed Footnote Lines	Total Footnote Lines	Divider Line on Line No.
a.	1, 2	6	55
b.	4	____	____
c.	2, 2, 3	____	____
d.	2, 4	____	____
e.	1, 1, 3	____	____
f.	2, 1, 3	____	____

b. 6 55
c. 11 50
d. 9 52
e. 9 52
f. 10 51

14-35

As you reach each footnote sign during your typing of a ms. page, make a note of how many typed lines the footnote will require. In that way, you can determine when to stop the ms. typing and start the footnotes. If you underestimate the space needed for footnotes, you will fall below line ____ (or will have to carry part of the last footnote over to the _____ of the next page). If you overesti-
(top/bottom)
mate, your bottom margin will be _____ than 1 inch.
(more/less)

60
bottom
more

14-36

Assume that some very brief report uses only half a page or that the last page in a longer report is only half full. Assume also that that page contains one or more footnotes. Those footnotes still appear at the bottom of the page, ending on line 60--<u>not</u> a line or two below the last typed ms. line on that page. Even if the final ms. line were, say, on line 20 on that page, if there were one 1-line footnote and one 3-line footnote, the divider line should be typed on line ____, and the footnotes should end on line ____.

54 (61 - 7)
60

14-37

Now a little TEST.

_____

1 xxxxxxxxxxxxxxxxxxxxx

2 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

3 xxxxxxxxxxxxxxxxxxxxx

The footnotes at the left use ____ lines. The divider should be on line ____. The last odd-numbered ms. line before the footnotes would be no. ____, followed by a _____ space to the divider line. The last even-numbered line before the footnotes would be no. ____, followed by a _____ space to the divider line.

[This frame makes a convenient stopping point.]

11
50 (61 - 11)
49
single
48
double

14-38

There are many ways to show references in footnotes. One widely used style is illustrated below.

[1] Fred L. Clark. <u>Style Manual for Typists</u>. New York: Claremont Press, 1970.

[2] Arthur Morrison. Ten Typing Tips. <u>Office Monthly</u>, (Feb.) 1970, <u>20</u>, 15-17.

Footnote references contain, in order: author, title, publication information.

Book titles (footnote 1) and magazine or journal titles (footnote 2) are _____. The journal
(in quotes/underscored)
volume number appears after the year of publication and is also _____.

14-39

Now a little TEST (based on Frame 14-38).

(Refer to the preceding frame.)

1. In a footnote reference, the author's name is given _____ first.
   (first name/last name)
2. The city of publication and the name of the publisher are given in a reference to a _____.
   (book/journal article)
3. Mr. Morrison's article begins on page 15 and ends on page ____.
4. The punctuation mark that follows each of the three main sections (author, title, publication information) is a _____.

underscored

underscored

14-40

TEST continued.

(Use Frame 38 as a model and be careful about punctuation.)

As footnote 3, write below a reference to a book entitled "Know Your Typewriter" by David Kent, published in 1968 by Rand & Sims, located in Chicago.

Assume that Mr. Kent's work was an article published on pages 11 to 15 of the March 1968 issue (volume 9) of "Office Machines." As Foot. 4, write a reference for it below.

1. first name
2. book
3. 17
4. period

[3] David Kent. Know Your Typewriter. Chicago: Rand & Sims, 1968.

[4] David Kent. Know Your Typewriter. Office Machines. (Mar.) 1968, 9, 11-15.